

# **DAMASCUS NATURAL FEATURES INVENTORY**

# NATURAL RESOURCES REPORT

**Prepared for:** 

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## Damascus Natural Features Inventory Natural Resources Report

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## Introduction

The City of Damascus, through a Goal 5 Planning grant from the Oregon Department of Land Conservation and Development, retained a consultant team led by Winterbrook Planning to conduct an inventory of natural resources within the city limits. The inventory addresses the following natural resources: wetlands, riparian corridors, wildlife habitats, groundwater resources, and Oregon scenic waterways. This inventory addresses Statewide Planning Goal 5, which requires local governments in Oregon to protect natural resources and conserve scenic and historic areas and open spaces. The inventory is part of the City's efforts to address long-term growth management goals and to complete a Comprehensive Plan for the new City, which was incorporated in November, 2004.

This report is a companion to the Damascus Goal 7 Natural Hazards Inventory Report, submitted under separated cover. The report begins with a review of study area characteristics, public involvement and agency coordination efforts. Each resource is then addressed individually, beginning with a brief overview, a review of inventory methods, a summary of inventory results, and a review of significance determinations. Site-specific documentation on the location, quantity, and quality of individual sites is provided in the maps and appendices to this report. Report appendices also include a glossary of terms, list of references, and staff qualifications.

The inventory maps show the location and extent of significant wetlands, riparian corridors and wildlife habitat areas, as well as their impact areas. The maps also identify significant groundwater resources and scenic waterways, as identified by the State.

The Goal 5 inventory and associated maps provide the basis for subsequent steps in the Comprehensive Planning process. As part of that process, the consequences of alternative conservation and development strategies will be weighed, and after a public review process concluding with public hearings, the City's elected policy makers will decide what type of conservation program is appropriate for inventoried resources.

# **Summary of Findings**

The following is a brief synopsis of key findings of the Damascus Natural Resource Inventory, including the recommendations from the Natural Features Topic Specific Team (a representative group of Damascus residents). Methods for collecting information for these reports included analyzing existing maps and other data from Clackamas County, Metro, Department of State Lands, Department of Environmental Quality, and other public agencies as well as onsite fieldwork where local property owners granted access. The inventory was completed to address State Land Use Goal 5 (Natural Resources).



### Wetlands

Twenty-six wetlands were identified within the City, in addition to numerous "possible wetlands" of less than one-half acre in size. Wetlands were evaluated against the state's wetland significance criteria as well as two additional criteria that the Natural Features TST recommended.

Significance Outcome

 23 wetlands were determined to be significant. Total area of significant wetlands is 145.46 acres or 1.4 percent of total land within Damascus.

### **Riparian Corridors**

Twenty riparian sites were identified along streams and rivers. These sites included reaches of Noyer, Richardson and Rock Creeks, which are tributaries to the Clackamas River, and Sunshine, Kelley and Badger Creeks, which are tributaries to Johnson Creek.

Significance Outcome

 All mapped streams are considered significant for the purpose of Goal 5, as recommended by the Natural Features TST. Total area of significant riparian corridors is 1,674.31 acres or 15 percent of land within Damascus.

### Wildlife Habitat

Twenty-one habitat sites were identified within the City. The inventory followed an integrated approach which incorporated wetland, riparian and upland habitats. On the recommendation of the Natural Features TST, significance thresholds were established and habitats were ranked based on a three-tiered set of evaluation factors.

Significance Outcome

 Significant wildlife habitat includes significant wetlands and riparian corridors, and mapped upland habitats meeting minimum thresholds for size and other factors. Total area of significant wildlife habitat is 3,337.82 acres or 32 percent of land within Damascus. Approximately 19 percent of land within Damascus is considered high quality habitat.

### **Groundwater Resources**

Groundwater resources were mapped based primarily on information and data from state agencies.



Significance Outcome

 Much of Damascus is included in one of the three categories of groundwater that qualifies as significant under Goal 5. This category is the "limited groundwater area" designated by the Oregon Water Resources Commission. The total area of significant groundwater resources (i.e., limited groundwater areas) in Damascus is 8,805 acres or 85 percent of the City.

## Scenic Waterways

There is one designated Oregon Scenic Waterway (OSW) within the City. This OSW is the Clackamas River, upstream of the Carver Bridge.

Significance Outcome

 The Clackamas River OSW and its "related adjacent land" (land within one-quarter mile) is considered significant under Goal 5. The total area of significant Oregon Scenic Waterway in Damascus is 235 acres or 2 percent of the City.

# **Study Area Overview**

The City of Damascus is located in northern Clackamas County, south of Gresham and the Pleasant Valley area, and east of Happy Valley. The City includes the community of Carver to the southwest and borders the Clackamas River to the south in this area. Highway 212 traverses the City from east to west, and defines the city limits in certain locations (see Figure 1).

The study area for the Natural Features Inventory is generally defined as the City Limits, with a total size of 10,333 acres<sup>1</sup>. The city/study area extends outside the Urban Growth Boundary to the southeast, near the junction of Highway 224 and 232<sup>nd</sup> Avenue.

## Climate

Weather patterns generally move west to east across the region, originating in the Pacific Ocean and crossing the Coast Range and the Willamette River valley before reaching Damascus. The region's climate is greatly tempered by the winds from the Pacific Ocean. The closest National Weather Service to the study area is the Troutdale Station, where annual average precipitation is approximately 42.94 inches, more than 87 percent of which falls between October and May. From November through January, monthly precipitation averages approximately six inches.<sup>2</sup>

<sup>&</sup>lt;sup>2</sup> Accessed at http://www.weather.gov/climate/index.php?wfo=pqr



<sup>&</sup>lt;sup>1</sup> This area was calculated using GIS based on the original City boundary provided in September 2006. Some refinements to the boundary have occurred since then, and the area of the City likely has changed.

Locally, temperatures, winds and rainfall vary with elevation, slope aspect, and degree of vegetative cover. The Happy Valley/Scouter's Mountain buttes create a mild rain shadow effect, with slightly lower rainfall east of the ridge on the leeward slopes and lowlands in Damascus.

Precipitation during the course of the field inventory was generally consistent with the average for the area; however, November 2006 rainfall of more than 12 inches was nearly double the average for the month. Table 1 shows a comparison of rainfall averages with actual levels for the six month period beginning in October 2006.

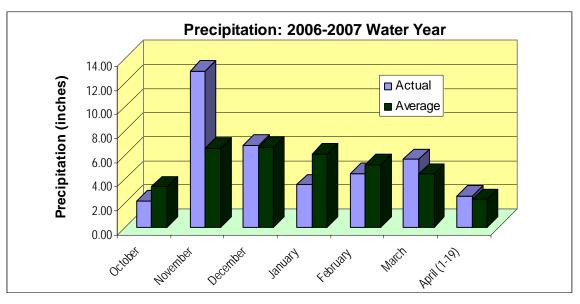


Table 1. Rainfall averages and actual levels for the 2006-2007 Water Year.

Table 2 shows daily rainfall measurements beginning approximately two weeks before the field work began (February 22) and continuing through the first three weeks of April. Actual and average rainfall for the two weeks prior to each on-site wetland sample site is recorded on the wetland data sheets contained in Appendix F of this report.



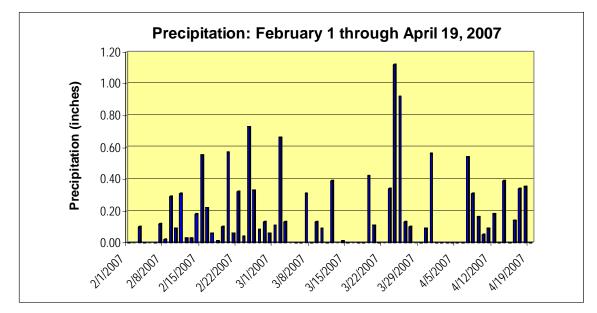


Table 2. Daily Rainfall, February through April, 2007.

## Topography

The study area is comprised of three basic landforms: the steeper East Buttes/ Boring Lava Domes complex and their immediate slopes (including the upper Rock and Kelley Creek drainages), the inter-butte valleys with low to moderate gradient drainages (Damascus Town Centre, upper Noyer and Sunshine Creek areas), and the Clackamas River valley characterized by steep valley margins and stream canyons (e.g., Richardson and Noyer Creeks).

Ground elevations within the study area range between 80 feet (NGVD) along the Clackamas River at Carver, to 530 feet in the town center area, to 1,129 feet at the top of North Butler Butte in the northwest part of the City.

## Hydrology

The City is split between two major drainage basins: the Clackamas River and Johnson Creek. Approximately three quarters (7,765 acres) of the City is located in the Clackamas basin, with one quarter (2,568 acres) located in the Johnson Creek basin.

Within the larger Clackamas River basin are four sub-basins: Deep Creek, Noyer Creek, Richardson Creek and Rock Creek. Within the Johnson Creek basin are three sub-basins: Badger Creek, Kelley Creek and Sunshine Creek. These basins are shown on the Wetlands and Water Resource Inventory map. Table 3 shows that area of each of these sub-basins within the City limits.



| Subwatersheds    | Basin Area (acres) |
|------------------|--------------------|
| Badger Creek     | 121                |
| Clackamas River  | 595                |
| Deep Creek       | 292                |
| Kelley Creek     | 425                |
| Noyer Creek      | 1,326              |
| Richardson Creek | 2,048              |
| Rock Creek       | 3,504              |
| Sunshine Creek   | 2,022              |
| TOTAL            | 10,333             |

Table 3. Damascus Sub-basins and Acreages

The existing drainage system has been modified in areas, primarily by agricultural activities, but remains a largely natural hydrologic system. The drainage system includes many areas of ditches and culverts, but natural or mostly natural streams and drainages predominate. Floodplains cover a relatively small area (140 acres) of the City along the Clackamas River lowlands. Areas of seasonally perched water tables are common throughout the City, however, and in certain areas such as Sunshine Creek, winter rains often trigger local flooding. Efforts to improve drainage caused by this shallow, perched water table have included the installation of drain tile and the excavation of ponds, ditches and swales.

## Geology

Geologic events leading to the formation of the Damascus area began more than 17 million years ago during the Miocene period. Volcanic fissures far to the east began discharging hundreds of cubic miles of molten lava that flowed through an ancient Columbia River Gorge, flooding the Willamette River valley. The solidified lava, Columbia River Basalt, covered the Scappoose Formation, a siltstone and shale deposit formed 22 million years ago when the region was submerged under marine waters.

The Columbia River Basalt is locally overlain by sandstone and shale deposits known as the Troutdale Formation. This formation has two distinct compositions: the lower facies consists of gravels containing quartzite, schists and granites which tie it to the ancestral Columbia River; the upper facies is primarily sandstone of basaltic origin, presumably eroded from the Cascades.

The Damascus buttes are volcanic in origin, formed several hundred thousand years ago when a group of shield and cinder cone volcanoes erupted across the lower Willamette Valley. These now-dormant volcanoes are comprised mainly of high-aluminia basalts, but locally contain ash, cinders and other materials. The basalts are similar to those of Mount Hood and other Cascade Mountains and the buttes are therefore believed to be tied to the uplift of the Cascade Range.



Later, silts were eroded from the Columbia River floodplain, carried down the gorge, and winddeposited on the Damascus buttes and valleys. The massive Bretz Floods (a.k.a. Missoula Floods) between 12,000 to 19,000 years ago eroded this silt away from areas below approximately 300 feet, replacing it with lacustrine deposits of silt and sand as the flood waters receded.

## Soils

Soils in the Damascus study area belong to two primary soil groups: Cascade-Powell and Bornstedt-Cottrell. Cascade silt loam is the dominant soil covering nearly half of the City and generally located north of Sunnyside Road and Highway 212. This soil is somewhat poorly drained soil formed in silty material and underlain by a cemented (hardpan) layer. Bornstedt silt loam covers some 2,300 acres of the City. It is located in the southern part of the City and generally south of the Cascade silt loam soils.

Table 4 provides a summary of key features of the soils within Damascus. These features include slope, drainage class, hydric soils, and erosion potential. The total area of the soil type within the study area is also provided. Figure 2 provides a map of the soil types within the study area. The source of the information is the Natural Resources Conservation Service (formerly Soil Conservation Service). Acreages in the table below were calculated using GIS.

| Soil series                            | oil series Map unit Slope Drains |                              | Drainage class               | Hydric                  | Erosion<br>Potential | Acres    |
|--|----------------------------------|------------------------------|------------------------------|-------------------------|----------------------|----------|
| Aloha silt loam                        | 1A                               | 0-3%                         | somewhat poorly drained      | no                      | slight               | 3.15     |
| Amity silt loam                        | 3                                | 0-3%                         | somewhat poorly drained      | no                      | slight               | 17.94    |
| Borges silty clay loam                 | 7B                               | 0-8%                         | poorly drained               | yes                     | slight               | 46.35    |
| Bornstedt silt loam                    | 8B, C, D                         | 0-8, 8-15, 15-30%            | moderately well drained      | no                      | slight to severe     | 2,328.93 |
| Cascade silt loam                      | 13B, C, D, E                     | 3-8, 8-15, 15-30, 30-<br>60% | somewhat poorly drained      | no                      | slight to severe     | 4,783.40 |
| Cascade silt loam,<br>Stony substratum | 14C, D, E                        | 3-15, 15-30, 30-60%          | somewhat poorly drained      | no                      | slight to severe     | 496.18   |
| Coloquato silt loam                    | 19                               | 0-3%                         | well drained                 | no                      | moderate             | 47.87    |
| Cornelius silt loam                    | 23B                              | 3-8%                         | moderately well drained      | no                      | slight               | 11.54    |
| Delena silt loam                       | 30C                              | 3-12%                        | poorly drained               | yes                     | slight               | 540.37   |
| Hardscrabble silt loam                 | 36B, C                           | 2-7, 7-20%                   | somewhat poorly drained      | d no slight to moderate |                      | 24.10    |
| Huberly silt loam                      | 41                               | 0-3%                         | poorly drained               | yes                     | slight               | 33.16    |
| Jory silty clay loam                   | 45                               | 8-15%                        | well drained                 | no                      | slight               | 3.72     |
| Klickitat stony loam                   | 51E                              | 30-60%                       | well drained                 | no                      | severe               | 23.68    |
| Newberg loam                           | 68                               | 0-3%                         | somewhat excessively drained | no                      | slight               | 42.53    |
| Pits                                   | 69                               | -                            | -                            | -                       | -                    | 21.80    |
| Powell silt loam                       | 70B, C, D                        | 0-8, 8-15, 15-30%            | somewhat poorly drained      | no                      | slight to severe     | 986.29   |
| Quatama loam                           | 71B, C                           | 3-8, 8-15%                   | moderately well drained      | no                      | slight to            | 25.01    |

| Table 4. Damascus | s Soil | Characteristics |
|-------------------|--------|-----------------|
|-------------------|--------|-----------------|



| Soil series Map u               |  | Slope                        | Drainage class          | Hydric    | Erosion<br>Potential | Acres  |
|---------------------------------|--|------------------------------|-------------------------|-----------|----------------------|--------|
|                                 |  |                              |                         |           | moderate             |        |
| Riverwash                       | 73   | 0-3%                         | -                       | yes       | N/A                  | 19.55  |
| Salem silt loam                 | 76B, C   | 0-7, 7-12%                   | well drained            | slight to |                      | 29.10  |
| Salem gravelly silt loam        | 77B  | 0-7%                         | well drained            | no        | slight               | 2.26   |
| Saum silt loam                  | 78B, C, D, E   | 3-8, 8-15, 15-30, 30-<br>60% | well drained no         |           | slight to severe     | 318.85 |
| Wapato silt loam                | 83   | 0-3%                         | poorly drained          | yes       | slight               | 8.34   |
| Wapato silty clay loam          | pato silty clay loam 84 0-3% poorly drained              |                              | poorly drained          | yes       | slight               | 33.42  |
| Woodburn silt loam              | Voodburn silt loam 91B, C 3-8, 8-15% moderately well dra |                              | moderately well drained | no        | slight to moderate   | 124.72 |
| Xerochrepts and<br>Heploxerolls | 92F  | 20-60%                       | well drained n          |           | severe               | 317.95 |

# **Public Involvement and Agency Coordination**

### **Public Involvement**

Public involvement and outreach for the Damascus Natural Feature Inventory project began in the fall, 2006 and continued through June, 2007. Articles about the project were published in *The Observer* beginning in late 2006. As part of the City's visioning process, a series of "What Makes Sense" meetings were held in November. At these meetings, participants were introduced to the Natural Features project.

In November, 2006, a landowner notice was prepared with input from the City Council and DSL. In December, the letter was sent to approximately 1,500 potentially affected landowners, and related information was published in *The Observer* and on City website. The letter included an invitation to a series of Open Houses in January 2007 and described ways that property owners and other interested parties could become involved in the project. The letter also included a right-of-entry request for landowners whose property might potentially contain natural resources or natural hazards. The City prepared a spreadsheet identifying the access status of all potential Goal 5 and Goal 7 properties, with contact information where provided. Landowner contacts and property visits occurred between February and May, 2007. Field visits consisted primarily of visual observations of natural resource conditions. Where potential wetlands were observed, small soil sample holes were hand dug to assess wetland characteristics; these holes were then backfilled before leaving the site.

Two city-wide Open Houses were held in January, 2007 with members of the City Council, DSL and DLCD present. The Open Houses provided information about the process, status and preliminary findings for Goal 5 resources and Goal 7 hazards based on available information. Draft inventory maps showing the best available data were reviewed with the public, and written



and oral public comments were noted. The draft maps were also posted on the City's website and at City Hall. Follow-up articles on the public meetings were published in *The Observer*.

A Natural Features Topic Specific Team (Natural Features TST) was established to review the inventory work and make recommendations on the guidelines and criteria for determining resource significance. The Natural Features TST is an advisory committee to the City Council. The committee was composed of a representative group of six citizens from the Damascus community, chaired by Larry Thompson. The City attracted members to serve on the TST through the City's website, notice in *The Observer*, announcements at the January open houses, and invitations to participants in previous city planning meetings such as the coffee klatches and summer socials. Committee meetings were held between March and June, 2007. Meetings were open to the public and included opportunities for public comment. Meeting agendas and summaries were posted on the City website.

Three city-wide Open Houses were held in May, 2007 with members of the Natural Features TST, City Council, DSL and DLCD present. Notice for the meetings went to the approximately 1,500 landowners contacted originally, and was posted in *The Observer*, on the City's website, and at City Hall. The Open Houses provided information about the inventory process, input from the public and the Natural Features TST to date, and the draft findings from the field work. Draft inventory maps showing Goal 5 resources and Goal 7 hazards were presented at the meetings. These maps were also posted on the City's website and at City Hall, with related articles appearing in *The Observer*. Public comments were reviewed and follow-up site visits were performed in late May 2007.

Updated and revised maps were then prepared reflecting the input received from the public and the recommendations from the Natural Features TST, which held its last meeting on June 6, 2007. These maps were then revised based on the TST comments and delivered to the City together with the Goal 5 and Goal 7 inventory reports. A City Council work session was held on July 17, 2007 to review the inventory and maps, and to receive the recommendations from the Natural Features TST.

Additional public meetings and open houses are planned for subsequent steps in the Goal 5 and 7 planning process, as part of the Comprehensive Plan public involvement plan.

## **Agency Coordination**

The consultant team coordinated with public agencies throughout the inventory process. Representatives from several agencies also attended the public open houses in January and May. Agencies contacted included the following:

- Clackamas County;
- Metro (Parks, Greenspaces, Data Resources);
- Oregon Department of Environmental Quality (DEQ);



- Oregon Department of Fish and Wildlife (ODFW);
- Oregon Department of Forestry (DOF);
- Oregon Department of Land Conservation and Development (DLCD);
- Oregon Department of Geology and Mineral Industries (DOGAMI);
- Oregon Department of Parks and Recreation (ODPR);
- Oregon Department of State Lands (DSL);
- Oregon Water Resources Department (WRD); and
- Oregon Natural Heritage Information Center (ORNHIC).



## Wetlands

The Damascus Local Wetland Inventory (LWI) provides maps and information about wetlands throughout the City and will serve as a planning tool for balancing the protection of wetland functions with other community needs as part of the forthcoming comprehensive planning process.

The LWI was conducted in three phases to support a broad citizen involvement process and to allow the fieldwork to occur during the preferred spring season. The first phase of the inventory was the planning phase in which existing wetland maps and information was collected, public meetings were held to review this information, and base maps were then



A Damascus wetland containing Oregon ash and a diverse native plant community.

prepared for the field inventory. This phase occurred between October, 2006 and January, 2007. Phase two of the process included the on-site field inventory, functional assessments, and collaboration with the Natural Features citizen committee (TST) to determine wetland significance. This phase occurred between February and May, 2007. The third phase, between May and June, involved another series of public meetings to review preliminary findings, follow-up field visits to respond to public comments, and preparation of a revised LWI draft for submittal to the Department of State Lands (DSL). A detailed review of the public involvement process for this project is provided in the *Public Involvement and Agency Coordination* section of this report.

Once approved by the DSL, the LWI replaces the National Wetlands Inventory (NWI) and is incorporated into the Statewide Wetlands Inventory. A LWI fulfills the location and quantity information required for Goal 5 inventories, but does not provide quality information. A wetland quality assessment was conducted concurrently with the LWI using the Oregon Freshwater Wetland Assessment Methodology (OFWAM) method developed by DSL. Data collected for the LWI will assist local landowners and the City in making decisions about the future growth of the Damascus community.

### **Inventory Methods**

The inventory of wetlands followed the guidelines and rules for conducting LWIs adopted by DSL in 1990, and updated in 2001. Key elements of the inventory methodology are summarized in this section.



Two levels of investigation were conducted for the inventory of wetlands: a review of existing information and a field inventory.

## Review of Existing Information

A review of existing literature, maps, and other materials was conducted to identify wetlands or site characteristics indicative of wetlands within the Damascus planning area. The review of existing information is summarized in a January 18, 2007 memorandum, "Review of Best Available Data."<sup>3</sup> This information was updated as new data was received from public agencies and other sources. Data received since the preliminary review of available data includes:

- City plat map correction western part of City (Clackamas County GIS);
- Fish presence and fish barriers data (Oregon Department of Fish and Wildlife);
- Groundwater Restricted Areas (Oregon Water Resources Department); and
- Local knowledge of area (obtained from residents and local resource experts during course of public involvement process).

Other base sources of information included:

- Clackamas County Soil Survey (NRCS), and lists of hydric soils and soils with hydric inclusions;
- National Wetland Inventory (NWI) maps;
- FEMA Floodplain maps;
- DSL wetland determination and permit files;
- Color aerial photography (RLIS 2006); and
- Oregon Natural Heritage Information Center data.

The existing information was used as the basis for preparing GIS base maps, which included the locations of potential wetland sites.

## Field Inventory

The inventory methods followed the Oregon Division of State Lands' (DSL) LWI procedures as outlined in OAR 141-86-180 through 240, as amended July 1, 2001.

Where property access was permitted, wetland determinations were made using the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The manual requires independent evidence of three parameters for an area to be declared as wetland: hydric soils, hydrophytic vegetation, and wetland hydrology. Location of sample points and mapping conventions followed state LWI standards and were not intended to define the limits of regulatory jurisdiction. Under state guidelines, mapped LWI wetland boundaries are considered

<sup>&</sup>lt;sup>3</sup> This memorandum is included here by reference and available from the City.



accurate to within 25 feet. A wetland boundary delineation may be needed to determine whether state or federal regulations apply to a particular development proposal.

Each inventoried wetland was assigned a unique code based on the subwatershed in which it was located. For example, the subwatershed containing the lower Rock Creek tributary was coded "RO-A." Wetlands within this subwatershed were then numbered accordingly (e.g., "RO-A-01," "RO-A-02," etc.).

For wetlands where access was granted, the consultant team typically established between two and six sample plots at locations that best characterized the wetland. Consultants recorded information regarding each of the three wetland parameters (i.e., soils, vegetation, and hydrology) to distinguish wetlands from non-wetlands. The LWI map shows the location of wetlands and the individual sample plots. General characteristics of each wetland were documented, including approximate wetland size, classification<sup>4</sup>, soil type, hydrologic source, dominant plant species, field dates, field investigators, a summary of the wetland context, and other relevant data. Wetland characteristics were recorded on individual summary sheets contained in Appendix C. Appendix F contains completed Wetland Determination Forms for wetlands sampled using the on-site method.<sup>5</sup>

Wetlands with DSL-approved determinations were field-verified where accessible to determine whether wetlands were still present and of the same size and configuration as when delineated. Wetland boundaries were verified through visual on-site observation of vegetation and hydrology. In cases where boundaries could not be reliably verified through visual observation, sample plots were established. Where revisions to recorded boundaries were warranted, the wetland mapping was adjusted to reflect the approximate current boundary and corresponding notations were made in the wetland summary sheets.

In cases where property access was denied, off-site determination methods were employed using existing information and maps, and off-site observation from nearby public rights-of-way or properties where access was granted. Areas exhibiting wetland indicators such as wetland hydrology or dominant hydrophytic vegetation were noted. Off-site determinations were based on off-site viewing, interpretation based on photo signatures of adjacent wetlands, review of topography and soils data, and other available information.

### Wetland Function and Condition Assessment

Wetland quality was assessed using the Oregon Freshwater Wetland Assessment Methodology (OFWAM). The OFWAM evaluates the extent to which a wetland performs certain functions based on specific characteristics. It assesses characteristics including wildlife habitat, fish habitat, water quality, hydrologic control, education, recreation, sensitivity to impact, enhancement potential, and aesthetic quality. On the suggestion of DSL staff, only the first four

<sup>&</sup>lt;sup>5</sup> Data from certain off-site determinations is also included in this appendix.



<sup>&</sup>lt;sup>4</sup> This includes both Cowardin and hydrogeomorphic (HGM) classifications as described in Appendix A, Definitions.

characteristics (wildlife habitat, fish habitat, water quality and hydrologic control) were assessed for this project, as these characteristics have a direct bearing on the wetlands significance criteria. In addition, where a wetland was located on public lands, education functions were also assessed to determine whether the wetland was significant as an educational resource.

An OFWAM field form was used to characterize wetlands and address specific functions that required field observation. Data collected in the field included the presence and extent of Cowardin classes, vegetative cover, wetland hydrology (source, storage, and discharge), character of adjacent water bodies, and other field data essential to the OFWAM assessment. The field evaluations were generally conducted from viewing areas near wetland sample plots, or from neighboring public rights-of-way where property access was not granted.

The OFWAM assessments were completed in the office using field data, aerial photographs, maps, and information gathered from public agencies (e.g., water quality, sensitive species, and related resource data). Several public agencies were contacted, including:

- Oregon Department of Environmental Quality (DEQ);
- Oregon Department of Fish and Wildlife (ODFW);
- Oregon Department of Forestry (DOF);
- Oregon Natural Heritage Information Center (ORNHIC); and
- U.S. Fish and Wildlife Service (USFWS).

The assessment result is a determination of whether a function is high (intact or diverse), moderate (impacted/degraded), or low (lost or not present). Factors such as size of wetland, biological diversity, presence of rare or sensitive species, and adjacent land uses are used in the rating system. These ratings are used in the evaluation of wetland significance; for example, any wetland with a "diverse" wildlife habitat function, or an "intact" fish habitat, water quality or hydrologic control function meets a criterion for a "locally significant wetland."

The OFWAM also includes a set of questions to assess whether any wetlands within the study area should be considered Wetlands of Special Interest for Protection (WSIP). The questions address whether a wetland is in a management plan, is protected by regulatory rules and statutes, or is uncommon in Oregon. An affirmative answer to any one of the ten questions will place the wetland into the WSIP category and management decisions should be made to protect the site.

Following completion of the LWI and the OFWAM functional assessment, all wetlands were evaluated against the state's wetlands significance criteria (OAR 141-086-0350). In addition to a high rating for any of the four functions noted above, the state's mandatory criteria include wetlands that:

- Are located within 1/4-mile of a "water quality limited stream" and have "intact" or "impacted or degraded" water quality function;
- Contain one or more rare plant communities;



- Are inhabited by any species listed by the federal government as threatened or endangered, or listed by the state as sensitive, threatened or endangered; or
- Have a direct surface water connection to a stream segment mapped by the ODFW as habitat for indigenous anadromous salmonids, and have "intact" or "impacted or degraded" fish habitat function.

The City's Natural Features TST recommended that two additional ("optional") criteria be used to determine the significance of wetlands in Damascus. These criteria are:

- The wetland represents a locally unique native plant community; or
- The wetland is publicly owned and determined to "have educational uses" using OFWAM, and such use by a school or organization is documented for that site.

The following summary and data sheets are contained in the appendices to this report:

- Wetland Characterization Sheets
- Wetland Assessment Summary Sheets
- OFWAM Summary Sheets
- Wetland Data Sheets

#### Mapping Procedures

Field maps were prepared using 2005 digital color ortho-photographs at a scale of 1 inch = 400 feet. All data were geo-referenced with the aerial imagery; the City parcel data were not reliable and Clackamas County GIS is in the process of correcting the parcel layer (expected to be completed by December 2007). Information shown on the field maps included existing wetland data (including DSL wetland determinations and NWI wetlands), photo-interpreted potential wetland sites, hydric soils, streams, water bodies, hydrologic basin boundaries, property boundaries, and public rights-of-way.

Wetlands and sample plots were mapped on the field maps and GPS waypoints were taken at wetland edges and sample plots, where property access was granted. A combination of other reference points was used in conjunction with GPS waypoints to establish the location and perimeter of each wetland polygon and the location of sample plots. These references included property lines (e.g., survey corner markers), streams, building lines, streets, utilities, trees and other mapped physical features that could be used to determine location and distances on the ground.

Wetland boundaries and sample plots were digitized and registered with the base map in GIS. Inventory maps were prepared following the requirements of OAR 141-086-0210 and the Digital Map Standards of OAR 141-086-0225.



### **Inventory Results**

The wetland inventory field work was performed between February and June, 2007. Twenty-six wetlands of one-half acre or larger were identified as part of the Local Wetland Inventory (Figure 3). Numerous additional "possible wetlands" were identified and noted on maps, but these were generally less than the one-half acre threshold identified by the state.<sup>6</sup> Wetlands varied in size from approximately 0.7 acre to 27 acres, with a total combined acreage of approximately 150 acres. Wetlands were distributed within six subwatersheds: Badger Creek, Clackamas River, Noyer Creek, Richardson Creek, Rock Creek and Sunshine Creek.

Several additional subwatersheds were identified in the study area but did not contain wetlands. Subwatersheds are shown on the Wetlands and Water Resources Inventory map (Figure 3). Table 5 summarizes the distribution and relative size of wetlands by subwatershed. The basin areas in the table reflect the acreage of the basin located within the study area.

| Subwatershed            | Basin Area (acres) | Wetland (acres) | Percent wetland in basin |
|-------------------------|--------------------|-----------------|--------------------------|
| Badger Creek            | 121                | 3.71            | 3.07%                    |
| <b>Clackamas River</b>  | 595                | 4.74            | 0.80%                    |
| Deep Creek              | 292                | 0               | 0.00%                    |
| Kelley Creek            | 425                | 0               | 0.00%                    |
| Noyer Creek             | 1,326              | 39.26           | 2.96%                    |
| <b>Richardson Creek</b> | 2,048              | 12.71           | 0.62%                    |
| Rock Creek              | 3,504              | 60.88           | 1.74%                    |
| Sunshine Creek          | 2,022              | 28.04           | 1.39%                    |
| TOTAL                   | 10,333             | 149.34          |                          |

#### Table 5. Wetland Size by Subwatershed

#### Wetland Classes

Wetlands in the Damascus area fall into two primary (Cowardin) classifications: Palustrine Emergent and Palustrine Forested wetlands. Palustrine Scrub-shrub and Open Water wetlands also occur, but in smaller numbers. These four wetland types are summarized below.

### Palustrine Forested Wetlands (PFO)

Forested wetlands generally include wetlands or portions of wetlands dominated by woody species over 30 feet in height. Forested wetlands are distributed primarily in the Noyer and Rock Creek basins.

<sup>&</sup>lt;sup>6</sup> The "possible wetlands" were mapped according to DSL requirements and are not included in the wetland calculations that follow.



Forested wetlands in Damascus include a combination of deciduous species dominated by Oregon ash (*Fraxinus latifola*) and black cottonwood (*Populus trichocarpa* v. *balsamifera*). Other common tree species include red alder (*Alnus rubra*) and western red cedar (*Thuja plicata*). Understory vegetation varies widely, from native shrub and emergent species to sites dominated by reed canarygrass(*Phalaris arundinacea*).

These wetland habitats generally provide high quality habitat for a wide variety of birds, mammals, amphibians and aquatic organisms. Structural and species diversity is moderately high, though limited in areas dominated by a reed canarygrass understory.

### Palustrine Scrub-Shrub Wetlands (PSS)

Scrub-shrub wetlands are transitional habitats characterized by woody species less than 30 feet in height. These wetlands are distributed in small pockets within the Damascus study area.

Scrub-shrub wetlands in Damascus include a wide variety of deciduous species dominated by red-osier dogwood (*Cornus sericea* v. *stolonifera*), Douglas spirea (*Spiraea douglasii*), and several species of willows (*Salix* spp.). Emergent species at these sites tend to be limited in diversity and often dominated by reed canarygrass.

These wetland habitats provide food, cover, and nesting habitat for insect-eating bird species such as warblers, flycatchers and swallows. Structural and species diversity is low to moderate.

### Palustrine Emergent Wetlands (PEM)

Emergent wetlands include marshes and shallow ponds dominated by grasses and other herbaceous plants. This is the most common wetland type within the study area, occurring in every subwatershed that contains wetlands.

Many emergent wetlands in Damascus are dominated by the invasive, non-native reed canarygrass. Native species dominated associations include slough sedge, skunk cabbage, and soft rush.

Small mammals and snakes are commonly found within this habitat type, which in turn attract northern harriers, red tail hawks, owls, and coyotes that feed upon them. Overall habitat value of this wetland type is low to moderate, depending of the extent of reed canarygrass infestation.

Palustrine Open Water Wetlands (POW)

Open water habitats generally include ponds and standing water habitats greater than six feet in depth. Open water areas provide important and necessary habitat for fish, aquatic invertebrates, water dependent mammals such as river otter, fish-eating birds (kingfisher, osprey, eagles), waterfowl and shorebirds. The off-channel open water habitats along the Clackamas River also



provide important refuge habitat for fish, particularly juvenile salmon. Open water areas are commonly associated with other wetland types (e.g., emergent, scrub/shrub, and forested).

Table 6 summarizes the distribution of wetlands by Cowardin classification within the study area. It should be noted that several wetlands had multiple classifications and generally only distinct Cowardin classes of more than one-half acre were mapped.

| Cowardin<br>Class          | Area (acres) |
|----------------------------|--------------|
| Forested Wetlands (PFO)    | 30.3         |
| Scrub-Shrub Wetlands (PSS) | 1.2          |
| Emergent Wetlands (PEM)    | 115.2        |
| Open Water (POW)           | 2.7          |
| Total                      | 149.4        |

 Table 6. Wetland Cowardin Classifications

All but a few wetlands were associated with local streams or the Clackamas River. Another classification system used by DSL is the hydrogeomorphic (HGM) classification. Table 7 summarizes the number and size of wetlands by HGM class and subclass. Because some wetlands may consist of more than one such classification, this table reflects only the dominant HGM class for each wetland.

| Hydrogeomorphic<br>Class / subclass | Area (acres) | Number of<br>Wetlands |
|-------------------------------------|--------------|-----------------------|
| Riverine Flow-Through (RFT)         | 22.76        | 14                    |
| Slope - Headwater (SH)              | 28.25        | 2                     |
| Slope - Valley (SV)                 | 51.89        | 5                     |
| Slope (S)                           | 11.18        | 1                     |
| Slope / Flats (S/F)                 | 31.55        | 3                     |
| Flats (F)                           | 3.71         | 1                     |
| Total                               | 126.58       | 26                    |

Table 7. Wetland Hydrogeomorphic Classifications



## Summary

Table 8 provides a summary of the distribution and size of wetlands within each sub-watershed. The subwatersheds and wetlands are shown in Figure 3.

| Subwatershed          | Wetland code | Area (acres) |
|-----------------------|--------------|--------------|
| Badger Creek (BA)     | BA-A-01      | 3.71         |
|                       |              |              |
| Clackamas River (CL)  | CL-A-01      | 2.70         |
|                       | CL-A-02      | 0.69         |
|                       | CL-A-03      | 1.35         |
|                       |              |              |
| Noyer Creek (NO)      | NO-A-01      | 12.92        |
|                       | NO-A-02      | 13.96        |
|                       | NO-A-03      | 11.18        |
|                       | NO-A-04      | 1.22         |
|                       |              |              |
| Richardson Creek (RI) | RI-A-01      | 1.39         |
|                       | RI-C-01      | 4.67         |
|                       | RI-C-02      | 1.73         |
|                       | RI-D-01      | 1.19         |
|                       | RI-D-02      | 1.61         |
|                       | RI-E-01      | 2.13         |
|                       |              |              |
| Rock Creek (RO)       | RO-A-01      | 0.81         |
|                       | RO-A-02      | 1.86         |
|                       | RO-A-03      | 3.47         |
|                       | RO-B-01      | 1.16         |
|                       | RO-D-01      | 26.86        |
|                       | RO-D-02      | 2.19         |
|                       | RO-E-01      | 19.43        |
|                       | RO-F-01      | 1.14         |
|                       | RO-F-02      | 3.96         |
|                       |              |              |
| Sunshine Creek (SU)   | SU-A-01      | 1.39         |
|                       | SU-A-02      | 25.48        |
|                       | SU-A-03      | 1.16*        |
|                       |              |              |
| TOTAL                 |              | 149.35       |

 Table 8. Wetlands by Subwatershed

\* This area includes the wetland portion of the mosaic area (60% of the 1.94 acre polygon).



#### Wetland Assessment Results

Wetland quality was assessed for each wetland unit using the Oregon Freshwater Wetland Assessment Methodology (OFWAM). As noted previously, DSL staff suggested that only the four wetland functions (wildlife habitat, fish habitat, water quality, hydrologic control) needed to be assessed for this project, as these relate directly to the wetland significance criteria. In addition, where a wetland was located on public lands, education functions were also assessed to determine whether the wetland was significant as an educational resource.<sup>7</sup>

Table 9 provides the results of the OFWAM assessments for each wetland unit in the study area. Certain categories were not applicable to particular wetlands. For example, if a wetland was not connected to a stream or other water body, fish habitat functions were not assessed.

<sup>&</sup>lt;sup>7</sup> As described in the Methods section, the Natural Features TST recommended adding this "optional" criterion for wetland significance. To evaluate whether the criterion was met, the OFWAM education value was also assessed for wetlands on public lands.



|                 |       |        |          |          |                  | Mandato               | ory Criteria                             |                         |                   |                                  | Optional                                  | Criteria                          |                   |
|-----------------|-------|--------|----------|----------|------------------|-----------------------|--|-------------------------|-------------------|----------------------------------|---|-----------------------------------|-------------------|
|                 |       |        |          | OF       | WAM              |                       | <sup>1</sup> ⁄4 Mile<br>of WQL<br>Stream | Rare Plant<br>Community | Listed<br>Species | Connects<br>to Salmon<br>Habitat | Local Unique<br>Native Plant<br>Community | Public With<br>Educational<br>Use | Signifi-<br>cant? |
| Wetland<br>Code | Acres | Exempt | Wildlife | Fish     | Water<br>Quality | Hydrologic<br>Control |  |                         |                   |                                  |   |                                   |                   |
| BA-A-01         | 3.71  | No     | Provides | Impacted | Intact           | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |
| CL-A-01         | 2.70  | No     | Provides | Intact   | Intact           | Intact                | Yes                                      | No                      | N/D               | Yes                              | No  | No                                | Yes               |
|                 |       |        |          |          |                  |                       |  |                         |                   |                                  |   |                                   |                   |
| CL-A-02         | 0.69  | No     | Provides | Impacted | Impacted         | Intact                | Yes                                      | No                      | N/D               | Yes                              | No  | No                                | Yes               |
| CL-A-03         | 1.35  | No     | Provides | N/A      | Impacted         | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | No                |
| NO-A-01         | 12.92 | No     | Diverse  | Impacted | Impacted         | Intact                | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |
| NO-A-02         | 13.96 | No     | Diverse  | Impacted | Intact           | Intact                | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |
| NO-A-03         | 11.18 | No     | Diverse  | Impacted | Intact           | Intact                | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |
| NO-A-04         | 1.22  | No     | Diverse  | Impacted | Impacted         | Intact                | No                                       | No                      | N/D               | No                               | Yes                                       | No                                | Yes               |
| RI-A-01         | 1.39  | No     | Provides | N/A      | Impacted         | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | No                |
| RI-C-01         | 4.67  | No     | Provides | Impacted | Intact           | Impacted              | No                                       | No                      | N/D               | Yes                              | No  | No                                | Yes               |
| RI-C-02         | 1.73  | No     | Diverse  | Impacted | Intact           | Intact                | No                                       | No                      | N/D               | Yes                              | No  | No                                | Yes               |
| RI-D-01         | 1.19  | No     | Diverse  | Impacted | Intact           | Impacted              | No                                       | No                      | N/D               | Yes                              | No  | No                                | Yes               |
| RI-D-02         | 1.61  | No     | Provides | Impacted | Impacted         | Intact                | No                                       | No                      | N/D               | Yes                              | No  | No                                | Yes               |
| RI-E-01         | 2.13  | No     | Provides | Impacted | Intact           | Impacted              | No                                       | No                      | N/D               | Yes                              | No  | No                                | Yes               |
|                 |       |        |          |          |                  |                       |  |                         |                   |                                  |   |                                   |                   |
| RO-A-01         | 0.81  | No     | Provides | Impacted | Intact           | Impacted              | No                                       | No                      | N/D               | No                               | No  | Potential*                        | Yes               |
| RO-A-02         | 1.86  | No     | Diverse  | Impacted | Impacted         | Intact                | Yes                                      | No                      | N/D               | No                               | No  | No                                | Yes               |
| RO-A-03         | 3.47  | No     | Diverse  | Impacted | Impacted         | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |
| RO-B-01         | 1.16  | No     | Diverse  | Impacted | Intact           | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |
| RO-D-01         | 26.86 | No     | Diverse  | Impacted | Impacted         | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |

## Table 9. OFWAM Wetland Assessment and LSW Results



|                 |       |        | Mandatory Criteria |          |                  |                       |  |                         |                   | <b>Optional Criteria</b>         |   |                                   |                   |
|-----------------|-------|--------|--------------------|----------|------------------|-----------------------|--|-------------------------|-------------------|----------------------------------|---|-----------------------------------|-------------------|
|                 |       |        | OFWAM              |          |                  |                       | <sup>1</sup> ⁄4 Mile<br>of WQL<br>Stream | Rare Plant<br>Community | Listed<br>Species | Connects<br>to Salmon<br>Habitat | Local Unique<br>Native Plant<br>Community | Public With<br>Educational<br>Use | Signifi-<br>cant? |
| Wetland<br>Code | Acres | Exempt | Wildlife           | Fish     | Water<br>Quality | Hydrologic<br>Control |  |                         |                   |                                  |   |                                   |                   |
| RO-D-02         | 2.19  | No     | Provides           | Impacted | Intact           | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |
| RO-E-01         | 19.43 | No     | Diverse            | Intact   | Impacted         | Intact                | No                                       | No                      | N/D               | No                               | Yes                                       | No                                | Yes               |
| RO-F-01         | 1.14  | No     | Provides           | Impacted | Impacted         | Impacted              | Yes                                      | No                      | N/D               | No                               | No  | No                                | Yes               |
| RO-F-02         | 3.96  | No     | Provides           | Impacted | Impacted         | Intact                | Yes                                      | No                      | N/D               | No                               | No  | No                                | Yes               |
|                 |       |        |                    |          |                  |                       |  |                         |                   |                                  |   |                                   |                   |
| SU-A-01         | 1.39  | No     | Provides           | Impacted | Intact           | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | Yes               |
| SU-A-02         | 25.48 | No     | Diverse            | Impacted | Impacted         | Intact                | No                                       | No                      | N/D               | No                               | Yes                                       | Potential*                        | Yes               |
| SU-A-03         | 1.16  | No     | Provides           | Impacted | Impacted         | Impacted              | No                                       | No                      | N/D               | No                               | No  | No                                | No                |

WQL: Water quality limited

N/D: None Detected (a formal sensitive species survey was not part of the scope for this project).

\* These wetlands may not meet the letter of the education criterion, but that is due in part to the very recent incorporation of the City and the fact that future school sites and educational activities are currently being evaluated. The Gresham-Barlow School District, for example, is currently considering purchase of a property that includes a portion of wetland SU-A-02. The DSL staff is aware of the Natural Features TST recommendation to include the education criterion and will review this question (whether these wetlands qualify under the criterion) as part of their LWI review.



Table 10 summarizes the relative distribution of assessments for each function, with the percentage of total wetlands ranking high in each category.

| Function           | High | Moderate | Low | N/A | % Wetlands<br>Assessed High |
|--------------------|------|----------|-----|-----|-----------------------------|
| Wildlife habitat   | 12   | 14       | 0   |     | 46%                         |
| Fish habitat       | 2    | 24       | 0   | 2   | 8%                          |
| Water quality      | 12   | 14       | 0   |     | 46%                         |
| Hydrologic control | 12   | 14       | 3   |     | 46%                         |

Table 10. Wetland Assessment Results for Key Wetland Functions

Each wetland was assessed to determine whether it should be considered a Wetland of Special Interest for Protection (WSIP). The questions in the WSIP category cover the presence of federal or state listed species and habitats, existing local, state or federal protections, and existing management plans. The following wetlands were found to be WSIP wetlands:

- CL-A-01. Wetland provides essential habitat for spring Chinook (Lower Columbia ESU), winter Steelhead (Lower Columbia ESU), and Coho (Lower Columbia ESU); critical habitat for spring Chinook (Lower Columbia ESU), winter Steelhead (Lower Columbia ESU); and
- CL-A-02. Wetland provides essential habitat for spring Chinook (Lower Columbia ESU), winter Steelhead (Lower Columbia ESU), and Coho (Lower Columbia ESU); critical habitat for spring Chinook (Lower Columbia ESU), winter Steelhead (Lower Columbia ESU).

In addition to the two WSIP wetlands that meet specific state criteria as "special interest" wetlands, seven wetlands received high ratings based on the local assessment. The following wetlands were deemed of high quality by virtue of: 1) receiving high ratings for three of the OFWAM functions, or 2) receiving high ratings for two OFWAM functions and meeting the significance criteria for salmon habitat connection or locally unique native plant communities.

- NO-A-02
- NO-A-03
- NO-A-04
- RI-C-02
- RI-D-01
- RO-E-01
- SU-A-02

During field investigations, the field team reviewed potential wetland mitigation or restoration sites. These sites are defined by DSL as "vacant, former wetlands, consisting mostly of relict (dewatered) hydric soils, which are five acres or larger in size." Several areas were observed that are currently in farm use and contain extensive drain tile systems, some functioning and some



not. Some of these lands are in areas of mapped hydric soils and could be assumed to be former wetlands. However, most of these areas were less than five acres in size. One site that potentially meets this size threshold adjoins the west side of wetland SU-A-02. This land is currently used as pasture for a local farm. Aerial photographs reveal evidence of a formerly meandering Sunshine Creek channel that has been straightened, suggesting that wetlands extended further west than then do today. The west slope rising up from Sunshine Creek may have had characteristics similar to the east slope, which is currently wetland fed by groundwater seepage. Thus, the area immediately west of wetland SU-A-02 is considered a potential wetland mitigation or restoration site.

### **Significant Wetlands Determination**

Following completion of the wetland inventory and functional assessment, all wetlands were evaluated against the state's wetlands significance criteria. These include the following mandatory criteria:

- 1. wetland provides a diverse wildlife habitat, intact fish habitat, intact water quality function, or intact hydrologic control function;
- 2. wetland is located within 1/4-mile of a "water quality limited stream" and has "intact" or "impacted or degraded" water quality function;
- 3. wetland contains one or more rare plant communities;
- 4. wetland is inhabited by any species listed by the federal government as threatened or endangered, or listed by the state as sensitive, threatened or endangered; or
- 5. wetland has a surface water connection to a stream that is habitat for indigenous anadromous salmonids and has "intact" or "impacted or degraded" fish habitat function.

As discussed previously, the City's Natural Features TST recommended that two additional criteria be used to determine the significance of wetlands in Damascus. These criteria are:

- 1. wetland represents a locally unique native plant community; or
- 2. wetland is publicly owned and has educational uses.

A total of 23 wetlands met one or more of the above criteria and were determined to be significant. The three wetlands that do not qualify as significant are CL-A-03, RI-A-01 and SU-A-03. As shown in Table 9, most of the significant wetlands provided high wildlife or fish habitat, water quality, or hydrologic control function. A few wetlands also met the other significance criteria, including being located within a quarter-mile of a water quality limited stream, having a surface water connection to a salmonid stream, or meeting the optional criteria applied on the recommendation of the Natural Features TST.



## **Riparian Corridors**

The inventory of riparian corridors was conducted concurrently with the wetlands inventory. Similar to the LWI, the inventory was organized into three phases:

- Planning (October, 2006 January, 2007). Collection and review of existing maps and information, public review and field base map preparation;
- Field inventory (February May, 2007). Field inventory and assessment, and meetings with the Natural Features TST; and



Riparian corridors ranged in size from large rivers (Clackamas) to small streams.

Public meetings and review (May - June, 2007).
 Second series of public meetings, follow-up

field visits, meetings with the Natural Features TST, and preparation of a revised maps and report.

A summary of the public involvement process for this project is provided in the *Public Involvement and Agency Coordination* section of this report.

### **Inventory Methods**

Unlike the preceding Local Wetlands Inventory, the state has not adopted special rules related to riparian corridor inventories. Riparian corridor inventories normally follow the inventory requirements of the Goal 5 Administrative Rule. However, with the acknowledgement of Metro's Title 13 ordinance addressing Goal 5 riparian corridors within the region, the Damascus riparian inventory approach was adapted for consistency with Metro's requirements, while at the same time maintaining consistency with the standard inventory provisions of Goal 5.

The City's Natural Features TST, a representative group of citizens from the Damascus community, played an important role in the evaluation of inventory methods and significance determination. This committee met four times with members of the project team to review inventory methods and findings, and to make recommendations on the guidelines and criteria for determining resource significance.

The riparian inventory for the City of Damascus followed an ecological functions approach to riparian corridor assessment. Among the functions evaluated were water quality protection, streamflow moderation and water storage, provision of fish and wildlife habitat, and biodiversity support. Surface water conveyance was another basic function of streams recognized by the Natural Features TST.



The approach focused on field reconnaissance of Damascus stream corridors, making use of technologies such as Light Detection and Radar (LiDAR) and Global Positioning Systems (GPS), as well as Geographic Information System (GIS) mapping and analysis technology.

Two levels of investigation were conducted for the inventory of riparian corridors: a review of existing information and a field inventory.

## Review of Existing Information

A review of existing literature, maps, and other materials was conducted to gather information on riparian corridors along rivers, ponds, wetlands, and streams in Damascus. The review of existing information is summarized in a January 18, 2007 memorandum, "Review of Best Available Data."<sup>8</sup> As noted in the Wetlands section, updated information received since that review included:

- City plat map correction western part of City (Clackamas County GIS);
- Fish presence and fish barriers data (Oregon Department of Fish and Wildlife);
- Groundwater Restricted Areas (Oregon Water Resources Department); and
- Local knowledge of area (obtained from residents and local resource experts during course of public involvement process).

Other base sources of riparian-related information included:

- Oregon Department of Forestry stream classification maps;
- United States Geological Service (USGS) 7.5-minute quadrangle maps
- NWI maps;
- FEMA Floodplain maps;
- Color aerial photography (RLIS 2005);
- Metro riparian inventory data and maps; and
- Oregon Natural Heritage Information Center data.

The existing information served as the basis for preparing GIS base maps showing streams and potential riparian corridor locations.

The study area was divided into riparian sites based on watersheds (the drainage areas for individual streams and rivers). These sites were assigned a code based on the watershed (first two letters of the stream name) and the subwatersheds (generally tributary basins within the larger watershed. Thus, the lower tributary to Rock Creek received a code of RO-A; one tributary upstream, RO-B; and so forth.

<sup>&</sup>lt;sup>8</sup> This memorandum is included here by reference and available at Damascus City Hall.



### Field Inventory

Team scientists reviewed inventory methodologies developed by Metro, other local Goal 5 methodologies, and the state's Urban Riparian Inventory and Assessment Guide (URIAG). These methodologies rely on a combination of best available knowledge, field observations, and best professional judgment. The team also reviewed the existing available data within the study area. Based on this review of methodologies and data, and consideration of the limited "ground-truthing" scope of the inventory, the team developed an inventory and assessment method tailored to the riparian conditions in Damascus.

For the Damascus inventory, information was collected on the physical and biological characteristics of the riparian corridors within each of the City's resource sites. Each riparian site was assessed from public rights-of-way or from selected private properties where access permission was granted. Multiple observation points were used for each site where possible. GPS waypoints of stream centerlines, tops-of-bank, road crossings, and other features were collected where accessible. As noted previously, this was a reconnaissance level survey to "ground truth" existing information and data; however, supplemental information was collected for each site. Information collected included the following:

- Stream/reach name
- Other water resources
- Floodplains
- Fish barriers
- Large wood features
- Recruitment potential

- Stream gradient
- Side slopes
- Average vegetated width
- Channel shade
- Channel alteration
- Characteristic vegetation

In addition, the location and general characteristics of each riparian site were noted. Other relevant information such as associated wetland sites and adjacent land uses were also identified. Riparian characteristics were recorded on individual Riparian Corridor Summary Sheets contained in Appendix G.

#### Functional Assessment and Significance Determination

The riparian corridor assessment method builds on previous methodologies identified above. The project team developed a Riparian Functions Assessment form to evaluate specific functions of riparian corridors within Damascus. These functions, as endorsed by the Natural Features TST, included the following:

- water quality protection
- streamflow moderation and water storage
- fish habitat
- wildlife habitat
- biodiversity



Riparian functions were assessed based on parameters developed by the team scientists after a review of the scientific literature and the riparian assessment methods noted above. The assessment results indicate whether specific functions were high, medium, or low for a given riparian site. Overall ratings for each site were based on the functional ratings: riparian sites with two or more high values received a high rating, two or more medium or one high value received a medium rating, and all other sites received at low rating. The factors evaluated are summarized below:

- <u>Water quality protection</u>. Water quality factors assess the potential of the riparian corridor to protect water quality in streams and other water features associated with the corridor. These factors include the density and type of vegetation cover, width of vegetation cover along the water feature, extent of impervious surfaces, extent of shade cover, and erosion potential of soils. The highest rated sites have dense woody vegetation, wide vegetated corridors, minimal impervious surfaces, high shade cover, and slight erosion potential.
- <u>Streamflow moderation/water storage</u>. Streamflow moderation/water storage factors assess the potential of the riparian corridor to moderate streamflow by intercepting, absorbing and storing rainfall, and to provide water storage and conveyance during flood events. These factors include the presence of floodplains and stream-associated wetlands, extent of woody vegetation cover, degree of streambank alteration, location of the site within the basin, and connectivity to forested uplands. The highest rated sites have large floodplains or associated wetlands, dense woody vegetation, low bank alteration, are located in upper part of the basin, and are well-connected to forested uplands.
- Fish habitat. Evaluation factors assess the potential of the riparian corridor to provide habitat and migration opportunities for fish. They include the presence of fish (ODFW or other sources), degree of channel alteration, degree of channel shade, potential for large woody debris recruitment, and presence of barriers to fish migration. The highest rated sites are fish-bearing streams that have low channel alteration, a high degree of shade, high recruitment potential, and no fish barriers.
- <u>Wildlife habitat</u>. Evaluation factors assess the potential of the riparian corridor to provide important habitat values for wildlife. These factors include habitat patch size, extent and seasonality of surface water, habitat diversity, degree of human-caused disturbance, and habitat connectivity. The highest rated sites have contiguous habitat size of greater than 10 acres, multiple water types including permanent water sources, high habitat diversity, low human disturbance, and high connectivity to other habitat areas.
- <u>Biodiversity</u>. These factors assess the potential for the riparian corridors to support biodiversity. Evaluation factors include the presence of federal or state-listed species, Oregon Natural Heritage Information Program (ORNHIC) priority habitats, locally rare habitats, extent of native vegetation cover, and human disturbance. The highest rated sites have one or more listed species, priority habitats, locally rare species or habitats, high degree of native vegetation cover, and low levels of disturbance.



These functions were evaluated for each site from roads, other public lands, and selected private properties where access permission was granted. Field maps (with aerial imagery, stream locations, etc.) and other reference materials were consulted to assess broader factors such as patch size, fish presence, or average channel shade. The riparian functional assessment was recorded on Riparian Summary Sheets contained in Appendix G.

Following completion of the riparian inventory and functional assessment, riparian sites were evaluated for significance. Similar to wetlands, riparian functional assessments were used to guide the determination of significance. The Natural Features TST noted that in addition to providing one or more of the five functions noted above, each stream provides the basic function of surface water conveyance.

### **Inventory Results**

The riparian inventory field work was performed between February and June, 2007. Eight subwatersheds containing 20 riparian corridor sites were identified during the riparian inventory. All riparian corridors were associated with streams or rivers; some corridors included streamside wetlands. Table 11 identifies the watersheds, subwatersheds, and subwatershed sizes within Damascus.

| Watershed       | Subwatershed            | Subwatershed Acres in Damascus |
|-----------------|-------------------------|--------------------------------|
| Johnson Creek   | Badger Creek            | 121                            |
|                 | Kelley Creek            | 425                            |
|                 | Sunshine Creek          | 2,022                          |
| Clackamas River | Clackamas River         | 595                            |
|                 | Deep Creek              | 292                            |
|                 | Noyer Creek             | 1,326                          |
|                 | <b>Richardson Creek</b> | 2,048                          |
|                 | Rock Creek              | 3,504                          |
|                 | TOTAL                   | 10,333                         |

#### Table 11. Watersheds, Subwatersheds, and Acres within Damascus

Riparian corridors in Damascus vary in size and shape with the size and condition of the surrounding subwatershed. The combined area of riparian corridors within Damascus is approximately 1,674 acres; the combined stream length is 48 miles. Table 12 summarizes riparian corridor characteristics, corridor length and area, and associated wetlands. This table is organized in alphabetical order.



| Riparian Site                           | Riparian<br>Code | Summary   | Associated<br>Wetlands        | Total stream<br>length<br>(miles) | Corridor<br>area (acres) |
|---|------------------|---|-------------------------------|-----------------------------------|--------------------------|
| Badger Creek                            | R-BA-A           | Badger Creek, tributary to Johnson Creek;<br>red alder dominated riparian corridor.<br>Farming and low density residential uses.  | BA-A-01                       | 0.91                              | 31.11                    |
| Clackamas River                         | R-CL-A           | River segment at Carver, downstream<br>from Richardson Creek confluence.<br>Clackamas River, large riverine system<br>with island habitat, broad floodplain, and<br>bottomland cottonwood forest. Steep<br>canyon walls rise above floodplain, with<br>some basalt cliffs.  | CL-A-01<br>CL-A-02<br>CL-A-03 | 1.98                              | 107.96                   |
| Clackamas River<br>Tributary            | R-CL-C           | Upper reach of small tributary to<br>Clackamas River; constrained and altered<br>by nearby development. The southern site<br>boundary is Tong Road, approximately<br>1,000 north of its intersection with<br>Oregon 224. Below the road, the stream<br>is part of R-CL-A.   |                               | 0.39                              | 12.17                    |
| Deep Creek<br>Lower Tributary           | R-DE-A           | Small tributaries to lower Deep Creek and<br>Clackamas River; includes mature mixed<br>forest corridor along 232 <sup>nd</sup> Avenue.<br>Lower section of streams disturbed by<br>road crossings and residential uses and<br>development; riparian corridor<br>fragmented at 232 <sup>nd</sup> and Oregon 224.   |                               | 0.93                              | 33.66                    |
| Kelley Creek<br>Headwaters              | R-KE-A           | Mainstem/headwaters of Kelley Creek,<br>with multiple tributaries; mixed deciduous<br>and evergreen riparian habitats. Cutthroat<br>trout noted (by ODFW) up to<br>approximately north limit of site. Kelley<br>Creek is a tributary to Johnson Creek.  |                               | 2.20                              | 96.43                    |
| Noyer Creek –<br>Upper Basin            | R-NO-A           | Upper Noyer Creek with multiple<br>tributaries and associated wetlands.<br>Riparian conditions degraded by farming<br>and development, but restoration<br>opportunities exist and biological health of<br>stream improves dramatically in<br>downstream forested ravines. Noyer Creek<br>drains to Deep Creek before the confluence<br>of Deep Creek and Clackamas River. |                               | 5.16                              | 194.69                   |
| Richardson<br>Creek – West<br>Tributary | R-RI-A           | Small Richardson Creek tributary with<br>riparian corridor partly fragmented by road<br>and development.  | RI-A-01                       | 0.53                              | 20.92                    |

 Table 12. Riparian Site Characteristics, Length and Area



| Riparian Site              | Riparian<br>Code |   |                    | Total stream<br>length<br>(miles) | Corridor<br>area (acres) |
|----------------------------|------------------|---|--------------------|-----------------------------------|--------------------------|
| Richardson                 | R-RI-B           | Junction of Richardson Creek's main stem                                    |                    | 2.48                              | 78.32                    |
| Creek – Central            |                  | and north branch. One of the core riparian                                  |                    |                                   |                          |
| Confluence                 |                  | habitat areas within City, supporting                                       |                    |                                   |                          |
|                            |                  | steelhead trout and coho salmon.  |                    |                                   |                          |
|                            |                  | Biological health of Richardson Creek                                       |                    |                                   |                          |
|                            |                  | increases from upper reaches to lower                                       |                    |                                   |                          |
|                            |                  | reaches.  |                    |                                   |                          |
| Richardson                 | R-RI-C           | Richardson Creek tributary with associated                                  | RI-C-01            | 1.36                              | 44.64                    |
| Creek –                    |                  | wetlands. Riparian corridor fragmented by                                   | RI-C-02            |                                   |                          |
| Northwest                  |                  | roads and development; limited forest                                       |                    |                                   |                          |
| Tributary                  |                  | cover.  |                    | 0.10                              | (2.22                    |
| Richardson                 | R-RI-D           | Richardson Creek tributary through  | RI-D-01            | 2.18                              | 63.23                    |
| Creek – North<br>Tributory |                  | Damascus town center. Riparian corridor                                     | RI-D-02            |                                   |                          |
| Tributary                  |                  | with wetlands upstream of Safeway in fair                                   |                    |                                   |                          |
|                            |                  | condition, otherwise fragmented and/or piped.                               |                    |                                   |                          |
| Richardson                 | R-RI-E           | Richardson Creek tributary; largely farmed                                  | RI-E-01            | 1.73                              | 46.56                    |
| Creek –                    | K-KI-L           | and developed corridor with minimal forest                                  | KI-L-01            | 1.75                              | 40.50                    |
| Northeast                  |                  | cover along stream channel.   |                    |                                   |                          |
| Tributary                  |                  | cover along stream enamer.  |                    |                                   |                          |
| Richardson                 | R-RI-F           | Southern Richardson Creek tributary with                                    |                    | 1.52                              | 41.96                    |
| Creek – East               |                  | multiple forks. Riparian corridor partly                                    |                    | 1.52                              | 11.50                    |
| Tributary                  |                  | fragmented by roads, farming and  |                    |                                   |                          |
| <b>J</b>                   |                  | development; stream piped in developed                                      |                    |                                   |                          |
|                            |                  | areas to northwest.   |                    |                                   |                          |
| Rock Creek -               | R-RO-A           | Lower Rock Creek tributary with multiple                                    | RO-A-01            | 2.28                              | 69.05                    |
| South Tributary            |                  | associated wetlands; generally forested                                     | RO-A-02            |                                   |                          |
| -                          |                  | riparian corridors.   | RO-A-03            |                                   |                          |
| Rock Creek -               | R-RO-B           | Rock Creek tributary with ash swale.  | RO-B-01            | 0.77                              | 21.46                    |
| Sunnyside                  |                  | Meandering channel has been altered in                                      |                    |                                   |                          |
| Tributary                  |                  | several locations, and ponds excavated.                                     |                    |                                   |                          |
|                            |                  | Fish have been documented by ODFW   |                    |                                   |                          |
|                            |                  | downstream, west of Rock Creek Road   |                    |                                   |                          |
|                            |                  | and outside city limits.  |                    |                                   |                          |
| Rock Creek -               | R-RO-C           | Small, north-flowing Rock Creek   |                    | 1.18                              | 35.47                    |
| Vogel Tributary            |                  | tributary. Riparian corridor fragmented by                                  |                    |                                   |                          |
|                            |                  | roads and development; several stream                                       |                    |                                   |                          |
|                            |                  | reaches piped. Year-round spring feeds                                      |                    |                                   |                          |
| Deals Creat                |                  | stream.   | <b>DO D 01</b>     | 1.20                              | 60.07                    |
| Rock Creek -<br>Northwest  | R-RO-D           | Broad valley floor at boundary between<br>Clackamas River and Johnson Creek | RO-D-01<br>RO-D-02 | 1.39                              | 60.97                    |
| Tributary                  |                  | watersheds. Upper Rock Creek tributary                                      | KU-D-02            |                                   |                          |
| Tibutary                   |                  | lined nearly its entire length by wetlands.                                 |                    |                                   |                          |
|                            |                  | Riparian areas largely pastureland; small                                   |                    |                                   |                          |
|                            |                  | forest patches to north and south.  |                    |                                   |                          |
| Rock Creek -               | R-RO-E           | Headwaters of Rock Creek, with multiple                                     | RO-E-01            | 2.85                              | 117.45                   |
| Northeast                  | N-NO-E           | tributaries. Mixed deciduous and evergreen                                  |                    | 2.05                              | 117.45                   |
| Tributary                  |                  | riparian forests along stream corridor.                                     |                    |                                   |                          |
| TIDULALY                   |                  | ripartan forests along stream corridor.                                     |                    |                                   |                          |



| Riparian Site                      | Riparian<br>an Site Code Summary |  | Associated<br>Wetlands        | Total stream<br>length<br>(miles) | Corridor<br>area (acres) |
|------------------------------------|----------------------------------|--|-------------------------------|-----------------------------------|--------------------------|
| Rock Creek -<br>Mainstem           | R-RO-F                           | Rock Creek mainstem with multiple<br>spring-fed tributaries and intact forested<br>riparian corridors. Fish-bearing stream<br>documented by ODFW; resident cutthroat<br>trout in lower part of this reach. Red-<br>legged frogs detected within site. High<br>number of interspersed seeps and springs<br>on the buttes and along streams and<br>wetlands. | RO-F-01<br>RO-F-02            | 9.22                              | 301.15                   |
| Sunshine Creek                     | R-SU-A                           | Mainstem of Sunshine Creek with multiple<br>tributaries and associated wetlands.<br>Riparian corridor impacted by farming,<br>roads and development. Small patches of<br>riparian forest in upper and lower (north<br>and south) parts of the site.  | SU-A-01<br>SU-A-02<br>SU-A-03 | 5.71                              | 187.45                   |
| Sunshine Creek –<br>West Tributary | R-SU-B                           | Sunshine Creek tributary descending from<br>largely intact forest habitats on "North<br>Sunshine" butte. Riparian areas include<br>stream segments with mature cedar forest.<br>Fish-bearing stream documented by<br>ODFW. Red-legged frogs detected within<br>site.   |                               | 2.75                              | 109.66                   |
| TOTAL                              |                                  |  |                               | 47.52                             | 1674.31                  |

#### **Riparian Corridor Assessment Results**

Riparian corridors were assessed using a Riparian Functions Assessment form, developed by the scientific team based in part on URIAG and Metro assessment methods and on the recommendations of the Damascus Natural Features TST.

Each riparian site was evaluated for its water quality, streamflow moderation/water storage, fish habitat, wildlife habitat, and biodiversity support functions. Similar to the wetlands assessment approach, the riparian ratings resulted in values of "high," "medium," and "low." Table 13 summarizes the results of the riparian assessment for each site in the study area.

|                                      |        | I                |                                   |                 | J                   |              |
|--------------------------------------|--------|------------------|-----------------------------------|-----------------|---------------------|--------------|
| Riparian Corridor                    | Acres  | Water<br>quality | Water Storage/<br>Flow Moderation | Fish<br>Habitat | Wildlife<br>habitat | Biodiversity |
| R-BA-A. Badger Creek                 | 31.11  | Μ                | L                                 | М               | L                   | L            |
| R-CL-A. Clackamas River              | 107.96 | Н                | М                                 | Н               | Н                   | Н            |
| R-CL-C. Clackamas River<br>Tributary | 12.17  | Н                | L                                 | L               | L                   | L            |

 Table 13. Riparian Functional Assessment Summary



| Riparian Corridor                          | Acres  | Water<br>quality | Water Storage/<br>Flow Moderation | Fish<br>Habitat | Wildlife<br>habitat | Biodiversity |
|--|--------|------------------|-----------------------------------|-----------------|---------------------|--------------|
| R-DE-A. Deep Creek –                       | 33.66  | Н                | L                                 | М               | Н                   | М            |
| Lower Tributary                            |        |                  |                                   |                 |                     |              |
| R-KE-A. Kelley Creek                       | 96.43  | Н                | Н                                 | Н               | Н                   | М            |
| Headwaters                                 |        |                  |                                   |                 |                     |              |
| R-NO-A. Noyer Creek –                      | 194.69 | М                | М                                 | L               | М                   | L            |
| Upper Basin                                |        |                  |                                   |                 |                     |              |
| <b>R-RI-A. Richardson Creek</b>            | 20.92  | Н                | L                                 | L               | L                   | L            |
| – West Tributary                           |        |                  |                                   |                 |                     |              |
| <b>R-RI-B. Richardson Creek</b>            | 78.32  | Н                | Н                                 | Н               | Н                   | Н            |
| - Central Confluence                       |        |                  |                                   |                 |                     |              |
| R-RI-C. Richardson Creek                   | 44.64  | Μ                | М                                 | L               | L                   | L            |
| – Northwest Tributary                      |        |                  |                                   |                 |                     |              |
| <b>R-RI-D. Richardson Creek</b>            | 63.23  | М                | М                                 | L               | М                   | L            |
| – North Tributary                          |        |                  |                                   |                 |                     |              |
| <b>R-RI-E. Richardson Creek</b>            | 46.56  | Н                | L                                 | L               | L                   | L            |
| – Northeast Tributary                      |        |                  |                                   |                 |                     |              |
| <b>R-RI-F. Richardson Creek</b>            | 41.96  | М                | М                                 | L               | L                   | L            |
| – East Tributary                           |        |                  |                                   |                 |                     |              |
| R-RO-A. Rock Creek -                       | 69.05  | Н                | М                                 | М               | Н                   | М            |
| South Tributary                            |        |                  |                                   |                 |                     |              |
| R-RO-B. Rock Creek -                       | 21.46  | М                | М                                 | L               | L                   | L            |
| Sunnyside Tributary                        |        |                  |                                   |                 |                     |              |
| R-RO-C. Rock Creek -                       | 35.47  | Н                | L                                 | М               | L                   | L            |
| Vogel Tributary                            |        |                  |                                   |                 |                     |              |
| R-RO-D. Rock Creek -                       | 60.97  | М                | М                                 | L               | L                   | L            |
| Northwest Tributary                        |        |                  |                                   |                 |                     |              |
| R-RO-E. Rock Creek -                       | 117.45 | Н                | Н                                 | Н               | Н                   | М            |
| Northeast Tributary                        |        |                  |                                   |                 |                     |              |
| R-RO-F. Rock Creek -                       | 301.15 | Н                | Н                                 | Н               | М                   | М            |
| Mainstem                                   |        |                  |                                   |                 |                     |              |
| R-SU-A. Sunshine Creek                     | 187.45 | М                | М                                 | L               | L                   | L            |
| R-SU-B. Sunshine Creek –<br>West Tributary | 109.66 | Н                | М                                 | Н               | Н                   | М            |

Key: H: High; M: Medium; L: Low

Table 14 summarizes the relative distribution of assessments for each riparian function, with the percentage of total sites ranking high in each category.

| Function                                | High | Moderate | Low | % Riparian Sites<br>Assessed High |
|---|------|----------|-----|-----------------------------------|
| Water quality                           | 12   | 8        | 0   | 60%                               |
| Streamflow moderation and water storage | 4    | 10       | 6   | 20%                               |
| Fish habitat                            | 6    | 4        | 10  | 30%                               |



| Wildlife habitat | 7 | 3 | 10 | 35% |
|------------------|---|---|----|-----|
| Biodiversity     | 2 | 6 | 12 | 10% |

The following riparian corridors received high overall ratings relative to other corridors within the study area:

- R-CL-A. Clackamas River
- R-DE-A. Deep Creek Lower Tributary
- R-KE-A. Kelley Creek Headwaters
- R-RI-B. Richardson Creek Central Confluence
- R-RO-A. Rock Creek South Tributary
- R-RO-E. Rock Creek Northeast Tributary
- R-RO-F. Rock Creek Mainstem
- R-SU-B. Sunshine Creek West Tributary

#### Significant Riparian Corridor Determination

In consideration of the important functions that riparian corridors provide throughout Damascus, the Natural Features TST recommended that all streams, as mapped and refined during the inventory and public review process, be considered significant for the purposes of Goal 5. Significant riparian corridors are shown as an integrated element of Figure 4, Wildlife Habitat and Riparian Corridors.



# Wildlife Habitat

The inventory of wildlife habitats was conducted concurrently with the wetland and riparian inventory. Similar to wetlands and riparian areas, the habitat inventory was completed in three phases: planning (October, 2006 - January, 2007); field inventory (February - May, 2007); and public meetings<sup>9</sup> and inventory refinement (May - June, 2007).

#### **Inventory Methods**

The inventory of Damascus wildlife habitats is an integrated mapping of wetland, riparian and upland habitats. Similar to the riparian inventory, the methods



Habitat area on butte, with associated spring, headwater stream, and forest cover

for the habitat inventory were adapted for consistency with Metro's Title 13 provisions and the standard inventory requirements of Goal 5. The Damascus Natural Features TST played an important role in the evaluation of habitat inventory methods and significance determination. The committee reviewed inventory methods and findings, and to made recommendations on the guidelines and criteria for determining resource significance.

The approach focused on field reconnaissance of Damascus wildlife habitats, which included upland, riparian and wetland habitats. The goal of the fieldwork was to ground truth and supplement existing habitat data within the study area. Tools such as GIS mapping and analysis technology, GPS waypoints, and LiDAR were also employed during the study.

Two levels of investigation were conducted for the inventory of wildlife habitats: a review of existing information and a field inventory.

#### Review of Existing Information

A review of existing literature, maps, and other materials was conducted to gather information on wildlife habitats within Damascus. Information sources included those identified in the wetlands and riparian methods sections.

Other base sources of wildlife habitat information included:

- ODFW wildlife habitat and sensitive species information;
- Oregon Natural Heritage Information Center data on threatened, endangered, or sensitive species in the Damascus area;
- Metro wildlife habitat inventory data and maps;

<sup>&</sup>lt;sup>9</sup> A summary of the public involvement process for this project is provided in the *Public Involvement and Agency Coordination* section of this report.



- Local inventories prepared for landowners and provided to the project team for review; and
- Consultations with resource agency staff (e.g., ODFW, Metro, Clackamas Watershed Council).

The existing information served as the basis for preparing GIS base maps showing data on species and habitat occurrence within Damascus. Habitat sites were defined in a manner consistent with other resources, with coding generally based on subwatersheds. Cover type classifications were based on National Vegetation Classification System (NVCS) definitions.

## Field Inventory

Wildlife habitat sites were evaluated using combination of tools including ground truthing of existing habitat information, GIS mapping and spatial analysis, and collection of data using the Wildlife Habitat Assessment (WHA) methodology adapted for use in Damascus. The WHA method has proven effective for assessing and ranking Goal 5 habitats throughout the Willamette Valley. The methodology is a scientifically accepted system for determining the relative value of different habitat types within a community. The Oregon DLCD has found the WHA to be an acceptable method for Goal 5 wildlife inventory compliance.

The WHA rating system evaluates each site in terms of its potential for wildlife. The WHA method is designed primarily to assess three major components of wildlife habitat: presence and quality of water, food and cover. The rating system is weighted, and reflects the presence or absence of each of these factors, plus three additional factors: human disturbance, rare features, and important habitat features. Team scientists reviewed recent refinements to the WHA methodology made by Metro; they concurred with some changes but found others to be inappropriate for Damascus, as noted below. Following is a summary of each WHA assessment factor.

- Water. Water resources on a site are evaluated based on four characteristics: quantity and seasonality; quality; proximity to cover; and diversity. All of these factors play an important role in a site's value to wildlife. Metro's version of the WHA form replaced water quality with "channel morphology, complexity, alteration." Team scientists determined that the original "water quality" parameter could be adequately measured in Damascus (using recent macroinvertebrate sampling, DEQ 303(d) data and other available data). The highest rated sites have multiple water sources including perennial sources, high quality water, with adjacent vegetation cover.
- <u>Food</u>. Food is a basic requirement for any organism. Wildlife species cannot survive in one area for any appreciable period of time without food. The greater the variety and quantity of food, the greater the potential for serving the needs of a range of wildlife species. The three factors considered in the assessment of forage habitat are variety, quantity, and seasonality. The highest rated sites have a wide variety of food sources available all year and in good quantity.



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- Cover. Cover habitat provides important shelter and refuge for wildlife, and key cover parameters include structural diversity (e.g., vegetation layers, downed wood), variety and seasonality of cover (e.g., species diversity, evergreen vs. deciduous), and nesting/denning sites (e.g., snags, logs, rocks), and access/escape (refuge opportunities). The highest rated sites have multiple layers of vegetation, snags and logs, and a wide variety of evergreen and deciduous species in all layers, and an abundance of potential nesting and denning sites.
- <u>Human Disturbance</u>. This parameter assesses disturbance factors that influence the relative value of habitat areas including physical habitat modification (e.g., development, forest clearing, invasive species) and direct human disturbance (e.g., traffic, trails, pets). The highest rated sites have little or no human disturbance.
- <u>Unique Features</u>. This parameter assesses the presence or potential occurrence of sensitive species or habitats within the site. The project team found this to be an important element of the original methodology. Published and field-collected data on sensitive species or habitats, or potential habitat for such species, is recorded. If such species or habitats are present, the site receives additional weighted points.
- Important Habitat Features. This section examines three additional habitat features: connectivity, large wood components, and the percentage of nonnative species in each vegetation strata. The team viewed connectivity as a critical feature of habitat, without which certain animals could not reach a habitat site. Connectivity to other habitats is important to allow migration and serve the life cycle needs of many wildlife species. The highest rated sites are well connected in multiple directions to varied habitats, have accumulated downed wood and snags, and have a low proportion of nonnative species.

The scoring of each factor on the sheet is weighted based on its estimated importance for wildlife. In particular, habitats with a water source nearby will rate higher in this system, as most terrestrial wildlife species need access to water, and all species need some amount of cover while drinking at a water source. However, habitat assessments are also intended to reflect the needs of the types of species that would be expected to occur within the habitat site. Thus, an upland habitat site without on-site water may outscore a riparian site in some cases, by providing high quality forage or nesting habitat for certain species, or the presence of sensitive species or habitats. The WHA method, as adapted for Damascus, provides an assessment approach that adds greater emphasis on the value of natural communities while preserving elements of the original survey that remain relevant to Damascus habitats.

Similar to the wetland and riparian inventories, wildlife habitats were assessed from public rights-of-way or from selected private properties where access permission was granted. Multiple observation points were used for each habitat site where possible. GPS waypoints of streams, wetlands, and notable habitat features were collected where appropriate. Thresholds established for minimum habitat patch size was generally one acre (except where sensitive species or nest sites were documented). Under the project scope, this was a reconnaissance level survey with a focus on "ground truthing" of existing information and habitats.



The Natural Features TST considered a range of factors that were important to the assessment of wildlife habitat. These factors included the following:

- Wildlife Habitat Assessment ratings;
- Connectivity to other habitats and to sources of water;
- Habitat patch size;
- Presence of state or federally listed sensitive species;
- Presence of locally rare species or habitats; and
- Habitats of Concern identified by ODFW, Metro or consultants.

#### **Inventory Results**

The wildlife habitat field inventory was performed between February and May, 2007. Twenty one habitat sites were identified during the inventory. Many sites were associated with streams or rivers and included riparian and/or wetland habitats. Other significant habitats included forested upland habitats located on the Damascus buttes.

Table 15 summarizes the size, general boundaries, and associated wetland and riparian sites for habitat sites within the Damascus study area. The sites are organized alphabetically by site name.

| Habitat Site | Habitat | Site  | Habitat               | Site Description                       | Wetland  | Riparian |
|--------------|---------|-------|-----------------------|--|----------|----------|
|              | Code    | Acres | <b>Resource Acres</b> |  | Habitats | Habitats |
| Badger       | BA-A    | 121   | 44.38                 | Badger Creek, wetlands, and small      | BA-A-01  | R-BA-A   |
| Creek and    |         |       |                       | ponds provide aquatic habitat. Limited |          |          |
| Upland       |         |       |                       | upland deciduous and mixed forest      |          |          |
| Habitats     |         |       |                       | habitats. High bird use with good      |          |          |
|              |         |       |                       | connection to forested butte to        |          |          |
|              |         |       |                       | southwest.                             |          |          |
| Clackamas    | CL-A    | 273   | 188.74                | Diverse Clackamas River floodplain     | CL-A-01  | R-CL-A   |
| River        |         |       |                       | habitats with bottomland cottonwood    | CL-A-02  |          |
| Corridor     |         |       |                       | forest, large wetland complex, island  | CL-A-03  |          |
| Habitats     |         |       |                       | habitat. Mature mixed forest upland    |          |          |
|              |         |       |                       | habitats climb the canyon walls        |          |          |
|              |         |       |                       | extending across Oregon 224. These     |          |          |
|              |         |       |                       | habitats include pockets of basalt     |          |          |
|              |         |       |                       | cliffs and remnant Oak Savanna         |          |          |
|              |         |       |                       | habitat.                               |          |          |

Table 15. Summary of Habitat Site Characteristics



| Habitat Site                                      | Habitat<br>Code | Site<br>Acres | Habitat<br>Resource Acres | Site Description   | Wetland<br>Habitats                      | Riparian<br>Habitats |
|---|-----------------|---------------|---------------------------|--|--|----------------------|
| Clackamas<br>River<br>Uplands                     | CL-B            | 244           | 112.74                    | Large block of shrub/grassland area<br>on hillside surrounded by forested<br>edge. Provides forage and limited<br>cover habitat for terrestrial wildlife,<br>and serves as a linkage between<br>Clackamas River and Rock Creek<br>habitats. Douglas fir forest with<br>blackberry, Scot's broom and other<br>shrubs. |  |                      |
| Clackamas<br>River<br>Tributary<br>Habitat        | CL-C            | 78            | 15.71                     | Site includes the upper reach of small<br>tributary to Clackamas River, and is<br>degraded by nearby development.<br>Limited Douglas fir, alder and<br>cottonwood forest habitat.  |  | R-CL-C               |
| Deep Creek<br>and Upland<br>Habitats              | DE-A            | 292           | 137.86                    | Diverse wildlife habitat above<br>Clackamas River and Deep Creek<br>confluence. Habitats include mature<br>mixed forest riparian corridors, mature<br>mixed and evergreen upland forests,<br>basalt cliffs, small cobble talus.  |  | R-DE-A               |
| Kelley<br>Creek/North<br>Butler Butte<br>Habitats | KE-A            | 425           | 285.75                    | Largely intact, mixed forest habitat<br>dominated by Douglas fir, bigleaf<br>maple and red alder. Headwaters of<br>Kelley Creek, with multiple<br>tributaries; mixed riparian forest<br>habitats. Good wildlife linkages to<br>forested buttes north, south, and east.   |  | R-KE-A               |
| Noyer Creek<br>Basin<br>Habitats                  | NO-A            | 1326          | 242.14                    | Multiple large and significant wetland<br>habitats within site. Upper Noyer<br>Creek riparian habitats degraded by<br>farming and development. Limited<br>upland forests in western and eastern<br>parts of site   | NO-A-01<br>NO-A-02<br>NO-A-03<br>NO-A-04 | R-NO-A               |
| Richardson<br>Creek West<br>Habitat               | RI-A            | 173           | 31.21                     | Stream drops into an intact forested<br>ravine before joining Richardson<br>Creek in core habitat area. Riparian<br>habitat partly fragmented by road and<br>development. Douglas fir forest<br>patches near stream  | RI-A-01                                  | R-RI-A               |
| Richardson<br>Creek<br>Confluence<br>Habitats     | RI-B            | 139           | 105.25                    | One of highest quality riparian and<br>upland habitats within the City.<br>Confluence of Richardson Creek's<br>main stem and north branch. Uplands<br>of high quality; continuous connection<br>to riparian corridors.   |  | R-RI-B               |



| Habitat Site                                    | Habitat<br>Code | Site<br>Acres | Habitat<br>Resource Acres | Site Description  | Wetland<br>Habitats           | Riparian<br>Habitats |
|---|-----------------|---------------|---------------------------|---|-------------------------------|----------------------|
| Richardson<br>Creek<br>Northwest<br>Habitat     | RI-C            | 386           | 79.26                     | Richardson Creek tributary with<br>significant stream-associated wetland<br>habitats. Riparian habitat fragmented<br>by roads and development. Small<br>areas of grassland and forest habitat<br>outside riparian/wetland corridor.   | RI-C-01<br>RI-C-02            | R-RI-C               |
| Richardson<br>Creek North<br>Habitat            | RI-D            | 609           | 116.17                    | Richardson Creek tributary through<br>Damascus town center. Riparian<br>habitats generally fragmented. Upland<br>forest habitat primarily on steeper<br>slopes at north end of site.  | RI-D-01<br>RI-D-02            | R-RI-D               |
| Richardson<br>Creek<br>Northeast<br>Habitat     | RI-E            | 399           | 62.54                     | A largely farmed and developed<br>habitat site with minimal forest cover<br>along stream. One stream-associated<br>wetland habitat.   | RI-E-01                       | R-RI-E               |
| Richardson<br>Creek East<br>Habitat             | RI-F            | 342           | 62.25                     | High bird use with good connection to<br>forested Clackamas River canyon to<br>south. Riparian habitats partly<br>fragmented by roads, farming and<br>development. Mixed upland forest is<br>scattered throughout site; shrub and<br>grasslands provide some connective<br>habitat. |                               | R-RI-F               |
| Rock Creek<br>South<br>Tributary<br>Habitats    | RO-A            | 445           | 115.35                    | Lower Rock Creek tributary with<br>multiple and diverse wetlands<br>connected to forest habitats. Mature<br>upland forests connected to forested<br>riparian corridors.   | RO-A-01<br>RO-A-02<br>RO-A-03 | R-RO-A               |
| Rock Creek<br>Sunnyside<br>Tributary<br>Habitat | RO-B            | 246           | 31.80                     | Rock Creek tributary with ash swale<br>riparian habitat; degraded elsewhere.<br>Small forested upland habitat patches.  | RO-B-01                       | R-RO-B               |
| Rock Creek<br>Vogel<br>Tributary<br>Habitat     | RO-C            | 313           | 82.87                     | Mature forest habitat area near<br>confluence of two stream branches.<br>Riparian corridor fragmented by roads<br>and development; Douglas fir<br>dominated upland forest patches.  |                               | R-RO-C               |
| Rock Creek<br>Northwest<br>Habitats             | RO-D            | 180           | 64.65                     | Large wetland complex, linked to<br>Johnson Creek wetland habitats to the<br>north (this site is part of a saddle<br>between basins). Riparian areas<br>largely pastureland; small forest<br>patches to north and south.  | RO-D-01<br>RO-D-02            | R-RO-D               |



| Habitat Site  |      | Site  | Habitat               | Site Description   | Wetland                       | Riparian |
|---|------|-------|-----------------------|--|-------------------------------|----------|
|   | Code | Acres | <b>Resource Acres</b> | 1  | Habitats                      | Habitats |
| Rock Creek<br>Northeast<br>Tributary<br>and Butte<br>Habitats | RO-E | 752   | 369.20                | Site contains large habitat patches and<br>one of most significant wetlands in<br>City. Mixed riparian forests along<br>stream corridor. Douglas fir and<br>bigleaf maple dominated forest<br>habitats occur in large blocks on<br>buttes.   | RO-E-01                       | R-RO-E   |
| Rock Creek<br>and Butte<br>Habitats                           | RO-F | 1567  | 602.97                | Diverse wetland, riparian and upland<br>habitats with high number of<br>interspersed seeps and springs. Large<br>blocks of intact mixed forest habitats<br>on buttes and connected to stream<br>corridors; good quality grassland<br>habitats connected to forest habitats.<br>Mature cedars are common in forests<br>throughout site. | RO-F-01<br>RO-F-02            | R-RO-F   |
| Sunshine<br>Creek<br>Habitats                                 | SU-A | 1489  | 303.55                | Sunshine Creek riparian habitat<br>impacted by farming, roads and<br>development. Smaller patches of<br>upland forest occur primarily in<br>eastern portion of site, with limited<br>riparian forests to the north and south.<br>Key restoration opportunities in the<br>wetland and stream areas.                                     | SU-A-01<br>SU-A-02<br>SU-A-03 | R-SU-A   |
| Sunshine<br>Creek West<br>Tributary<br>and Butte<br>Habitats  | SU-B | 533   | 283.43                | Mature cedar forest and large blocks<br>of intact mixed forest habitats on<br>"North Sunshine" butte connected to<br>riparian habitats.  |                               | R-SU-B   |

### Assessment Summary

The assessment resulted in a detailed mapping of habitat values within each site: high (A), medium (B), or low (C). Individual site ratings including acres of high, medium, and low habitats within each site are provided in Table 16. Consistent with the review and general recommendations of the Natural Features TST, high ranked habitats include those with the following characteristics:

- Located within Clackamas River or Lower Richardson Creek habitat corridor;
- Intact forested riparian corridor, plus adjacent mature or maturing upland forest;
- Locally significant wetlands;
- Habitats containing sensitive species;
- Contain locally rare species or habitats;
- Provide connectivity between any of the above habitats;
- High quality wildlife habitat (WHA); and
- Forested habitat in public ownership.



**Damascus Natural Features Inventory** Goal 5 Natural Resources Report July 2007 Medium ranked habitats generally include those that did not meet the high ranking and were:

- Mature or maturing forest outside (or with minimal connection to) riparian areas and wetlands;
- Young or low structure forest/vegetation within riparian areas or providing connection between habitats; and
- Medium quality riparian areas.

Lower ranked habitats generally include those that did not meet the other conditions and were:

- Young or low structure forest/vegetation outside riparian areas and wetlands; and
- Isolated upland habitats less than 5 acres.

The Natural Features TST also supported the concept of designating restoration opportunity sites. These sites include the following:

- Wetlands (degraded or not "locally significant" wetlands)
- Riparian Corridors (segments in degraded condition or dominated by non-native shrub/herbaceous cover)
- Uplands (degraded forest, shrub or herbaceous areas)

These habitats are mapped on the Wildlife Habitat and Riparian Corridor Map (Figure 4). Table 16 identifies habitat classes and the area of each class by habitat site. The Wildlife Habitat Assessment summary forms are contained in Appendix H of this report; as indicated above these assessments were one factor in the overall weighting of relative habitat values. These forms include summaries of potential habitat enhancement measures for each site.

| Habitat Site                             | Habitat Code | Habitat Classes | Acreage by Class |
|--|--------------|-----------------|------------------|
| Badger Creek and Upland Habitats         | BA-A         | А               | 3.72             |
|  |              | В               | 40.66            |
| <b>Clackamas River Corridor Habitats</b> | CL-A         | А               | 188.74           |
| Clackamas River Uplands                  | CL-B         | А               | 5.45             |
|  |              | В               | 57.55            |
|  |              | С               | 49.75            |
| Clackamas River Tributary Habitat        | CL-C         | А               | 1.22             |
|  |              | В               | 14.49            |
| Deep Creek and Upland Habitats           | DE-A         | А               | 137.86           |
| Kelley Creek/North Butler Butte Habitats | KE-A         | А               | 406.67           |
|  |              | В               | 16.94            |
| Noyer Creek Basin Habitats               | NO-A         | А               | 52.42            |
|  |              | В               | 185.20           |
|  |              | C               | 4.52             |

#### Table 16. Habitat Assessment Summary



| Habitat Site                                    | Habitat Code | Habitat Classes | Acreage by Class |
|---|--------------|-----------------|------------------|
| Richardson Creek West Habitat                   | RI-A         | А               | 4.03             |
|   |              | В               | 22.65            |
|   |              | С               | 4.53             |
| Richardson Creek Confluence Habitats            | RI-B         | А               | 94.30            |
|   |              | В               | 10.95            |
| Richardson Creek Northwest Habitat              | RI-C         | А               | 10.21            |
|   |              | В               | 39.79            |
|   |              | С               | 29.26            |
| <b>Richardson Creek North Habitat</b>           | RI-D         | А               | 18.86            |
|   |              | В               | 78.66            |
|   |              | С               | 18.65            |
| <b>Richardson Creek Northeast Habitat</b>       | RI-E         | А               | 4.56             |
|   |              | В               | 42.16            |
|   |              | С               | 15.82            |
| <b>Richardson Creek East Habitat</b>            | RI-F         | А               | 0.95             |
|   |              | В               | 55.78            |
|   |              | С               | 5.53             |
| <b>Rock Creek South Tributary Habitats</b>      | RO-A         | А               | 52.73            |
|   |              | В               | 39.29            |
|   |              | С               | 23.32            |
| Rock Creek Sunnyside Tributary Habitat          | RO-B         | А               | 1.16             |
|   |              | В               | 25.81            |
|   |              | С               | 4.82             |
| Rock Creek Vogel Tributary Habitat              | RO-C         | В               | 72.92            |
|   |              | С               | 9.94             |
| <b>Rock Creek Northwest Habitats</b>            | RO-D         | А               | 50.55            |
|   |              | В               | 8.38             |
|   |              | С               | 5.72             |
| <b>Rock Creek Northeast Tributary and Butte</b> | RO-E         | А               | 189.74           |
| Habitats  |              | В               | 169.79           |
|   |              | С               | 9.67             |
| <b>Rock Creek and Butte Habitats</b>            | RO-F         | А               | 424.07           |
|   |              | В               | 149.58           |
|   |              | С               | 29.31            |
| Sunshine Creek Habitats                         | SU-A         | A               | 42.66            |
|   |              | В               | 240.35           |
|   |              | С               | 20.54            |
| Sunshine Creek West Tributary and Butte         | SU-B         | А               | 175.57           |
| Habitats  |              | В               | 107.86           |

### **Significant Habitat Determination**

The habitat inventory is an integrated mapping of wetland, riparian and upland habitats. The Damascus Natural Features TST recommended that three gradations of habitat significance be identified, as described above: higher quality (A) habitats, medium quality (B) habitats, and relatively lower quality (C) habitats. The Natural Features TST determined that all mapped (A, B and C) habitats should be considered significant Goal 5 resources, recognizing that the



gradations of habitat quality would be a useful tool for policy-makers as they weigh the future growth needs of the community against the conservation of natural resources.

The Natural Features TST recommended further that the impact area for the Damascus inventory be the entire watershed. Under Goal 5, an "impact area" is the area within which conflicting uses could adversely affect a significant Goal 5 resource. The TST recognized that significant development within Damascus could adversely affect wetlands, streams and wildlife habitats a significant distance away. For example, urbanization could have adverse impacts on the area's hydrology, reducing groundwater inputs to streams and wetlands and potentially drying them up over time. To address this, the TST determined that the entire watershed for any given site should be considered the impact area, so that low impact development strategies would be evaluated in the future as part of the ongoing Comprehensive Planning process.



# **Groundwater Resources**

#### **Inventory Methods**

Goal 5 groundwater resource inventories generally entail preparation of a map based on information provided by state agencies, particularly the Oregon Water Resources Department and Oregon Department of Environmental Quality. The Oregon Water Resources Commission (OWRC) designates certain groundwater resources as critical groundwater areas or restrictively classified areas. These are two of the categories of groundwater areas that qualify as "significant" groundwater resources under Goal 5. The categories are:

- Critical groundwater areas, as designated by the OWRC;
- Restrictively classified areas, as designated by the OWRC; and
- Wellhead protection areas, as delineated by a local government or water provider.

Due to the narrow scope of Goal 5 groundwater inventories, no specific field inventory was completed for this part of the study. Field observations of groundwater features such as shallow water tables and the presence of groundwater seeps and springs were made throughout the course of the project, and these observations were generally consistent with the findings of the existing groundwater information (data and maps) reviewed as part of this study. Thus, the groundwater section of this report focuses on the review of existing information.

General information on groundwater resources in the Damascus area was available from several sources, including:

- *Rock and Richardson Creek Watershed Assessment* (Ecotrust, 2000), which includes an analysis of the hydrology of the two basins, identifying wells, discharge sites, and points of diversion;
- Origins of the Damascus Area Buttes and Their Relationships to Regional Groundwater Recharge (Brody-Hein, 2005), which includes an assessment of the recharge and groundwater movement in the vicinity of the buttes;
- Oregon Water Resources Department (OWRD) data, including information on the Damascus Groundwater Limited Area;
- Oregon Department of Environmental Quality (DEQ) data on groundwater drinking source areas and potential contaminant sites; and
- Oregon Department of Geology and Mineral Industries (DOGAMI) data on high groundwater areas.

Because most current water supplies are private, there are no comprehensive analyses of water resources and quality. The OWRC has classified much of the Damascus area as a Groundwater Limited Area. Under the Goal 5 administrative rule, restrictively classified areas such as the



Damascus Groundwater Limited Area are significant groundwater resources, and "local plans shall declare such areas as significant groundwater resources."

### **Inventory Results**

Groundwater is a considered a critical resource in the Damascus area because of limited (or undefined) recharge potential to deeper aquifers and limited shallow aquifer production capacity. In addition, the DEQ Oregon Drinking Water Program lists Damascus as a Tier 1 concern due the potential for Volatile Organic Contaminants (VOCs). As noted above, most of the study area is included in the Damascus Groundwater Limited Area (Figure 5, Groundwater Resource Map). The Sandy-Boring Ground Water Limited Area lies approximately one mile to the east.<sup>10</sup> This Groundwater Limited Area classification generally applies to sites where heavy pumping from Columbia River Basalt and the Troutdale Formation have caused declines in local aquifers. The Groundwater Limited designation is intended to help protect existing water rights by preventing excessive ground water declines, restoring aquifer stability, and preserving aquifers with limited storage capacity for designated high public value uses. The OWRD restricts new water rights in these areas to a few designated uses.

Previous studies (Brody-Hein, 2005) indicate that soils have limited storage and infiltration capacity and most rainfall appears quickly as stream flow. As noted in earlier studies (Ecotrust, 2000), some areas of higher recharge potential and higher yield may be associated with coarser grained volcanic deposits in the butte complex, but these areas were not mapped. The U.S.G.S. Quadrangle map for Damascus (1981) includes an area identified as Elliot Springs in the lower Richardson Creek area north of Walgreen Road. Data on the capacity, quality, and potential source for this spring were not available for review.

The large number of individual water supplies reported by Ecotrust (2000) would indicate that the aquifer is generally suitable as a potable water supply.<sup>11</sup> However, based on area geology and the OWRD Groundwater Limited Area classification, it should be assumed that larger volume groundwater resources, except those that are permitted under OWRD rules, are not available in the area unless it can be demonstrated that withdrawals come from portions of the Troutdale aquifer that are not currently declining. Additional sources of water will require specific studies on the availability of deeper water sources, importation of water from outside the area, or collection and storage of rainwater.

High groundwater areas in the Damascus area have been mapped by DOGAMI, as noted in the Damascus Goal 7 Natural Hazard Report. In general the high groundwater conditions are defined as water levels being within at least 1.5 feet of the ground surface during the wet season. The conditions are a result of poorly drained or clayey soils, porous soils resting on a clay layer

<sup>&</sup>lt;sup>11</sup> Information on quality of the shallow aquifer was not available for review.



<sup>&</sup>lt;sup>10</sup> The basis for leaving a non-limited area between the Damascus Groundwater Limited area and the Sandy-Boring Groundwater Limited is not entirely clear. It is assumed that groundwater conditions are not significantly different between the two limited areas, but this assumption has not been verified.

that retards infiltration, or relatively thin soils developed on gently sloping bedrock. The high groundwater areas generally include the entire City of Damascus, but some of the exceptions are:

- A few isolated slopes along the Clackamas River and other incised drainages where the slopes are extremely steep and the soils very thin;
- A few acres of bluff top areas where Boring Lava is near the ground surface, both above the Clackamas River and the top of the butte along Debora Street; and
- Some of the gravelly terraces along the Clackamas River.

As noted in the Goal 7 report, the project team's general recommendation is to assume that high groundwater will be present throughout Damascus during the wet season, and that provisions should be made to control surface and subsurface water in all new construction.

Another development-related recommendation is to map areas of high and low recharge potential for use in storm water management planning. Storm runoff routing from development has the potential to affect both shallow aquifer recharge as well as stream flows. The potentials for "green" recharge, temporary storage, stream flow enhancement, and wetland protection should be included in this assessment. It is anticipated that different storm water management approaches will be appropriate in different areas.

### Significant Groundwater Resource Determination

Under Goal 5, there are three categories of groundwater areas that qualify as "significant" groundwater resources:

- Critical groundwater areas, as designated by the OWRC;
- Restrictively classified areas, as designated by the OWRC; and
- Wellhead protection areas, as delineated by a local government or water provider.

As discussed above, much of Damascus is included within one of these areas: the restrictively classified area known as the Damascus. This area, as shown on the Groundwater Inventory Map (Figure 5), reflects the area of significant Goal 5 groundwater resources in Damascus. The size of the Groundwater Limited Area within the Damascus study area is 8,805 acres.



# **Oregon Scenic Waterways**

### Overview

Oregon Scenic Waterways are treated differently from other Goal 5 resources by the state. The Goal 5 rule (OAR 660-023-0130) directs local governments to bypass the steps in the standard inventory process and simply designate Oregon Scenic Waterways as significant Goal 5 resources. Hence, the inventory of Oregon Scenic Waterways is essentially a mapping exercise to show the boundaries of the scenic waterway as defined by the state.

There is one designated Oregon Scenic Waterway (OSW) within the City of Damascus. This OSW is the Clackamas River. The scenic designation applies to the river corridor located upstream of the bridge at Carver. The designation includes the river and "related adjacent land" which is defined as "all land within one-fourth of one mile of the bank on the side of…a river or segment of river within a scenic waterway."

### Significant Oregon Scenic Waterway Determination

Under Goal 5, the inventory "shall follow only the requirements of OAR 660-023-0030(5) by designating OSWs as significant Goal 5 resources." Hence, the inventory map of significant scenic waterways will show the river and land area within <sup>1</sup>/<sub>4</sub> mile of river bank, upstream of the Carver bridge.

The Clackamas River Scenic Waterway and its related adjacent land is shown on the Oregon Scenic Waterway map (Figure 6). The total area of this Scenic Waterway corridor is 235 acres.

#### **Implementation Options**

In terms of the next steps for Goal 5 implementation, the City has two options. First, it may adopt a Goal 5 program for the OSW and associated corridor by following either the Economic, Social, Environmental and Energy (ESEE) standards and procedures of OAR 660-023-0040 and 660-023-0050.

The second option is to follow the "safe harbor" provisions and adopt "only those plan and implementing ordinance provisions necessary to carry out the management plan adopted by the Oregon Parks and Recreation Commission (OPRC)." The OPRC adopted a management plan for this section of the Clackamas River in October, 1985. The plan is the *Clackamas River Scenic Waterway Management Program and Background Report*, which is included in Appendix I of this report.

This ESEE approach may offer the City greater flexibility in terms of the conservation measures it chooses to implement, but the project team recommends that the City pursue this approach only after determining that the safe harbor approach will not meet the City's needs.



# Appendix A. Definitions

**Anadromous Salmonids** – Chum, sockeye, Chinook and Coho salmon, and steelhead and cutthroat trout that are members of the family Salmonidae and are listed as sensitive, threatened or endangered by a state or federal authority.

**Basin** – a topographical entity within which all the surface water draining to a single point falls; some of the surface water may have come from groundwater fed by geological strata outside the basin.

**Cowardin Class** – the wetland classification according to the U.S. Fish and Wildlife Service's Classification of Wetlands and Deepwater Habitats of the United States, Cowardin et al., 1979. The two primary Cowardin systems occurring in Damascus are:

- palustrine freshwater (less than 0.5 parts per thousand ocean-derived salts) area dominated by trees, shrubs, persistent emergents, emergent mosses, or lichens. They can be non-tidal or tidal. Palustrine also includes wetlands lacking this vegetation, but having the following characteristics: (1) area less than 20 acres; (2) no active wave-formed or bedrock shoreline; (3) water depth in the deepest part is less than 6.6 feet at low water.
- **riverine** freshwater (less than 0.5 parts per thousand ocean-derived salts) areas that are contained within a channel and which are not dominated by trees, shrubs, and persistent emergents (for example, rivers and streams).

**Emergent** – a plant that grows rooted in shallow water, the bulk of which emerges from the water and stands vertically. Usually applied to non-woody vegetation.

**Emergent Wetland** – a subclass of palustrine system (see Cowardin Class above), a wetland characterized by erect, rooted, herbaceous hydrophytes, excluding mosses and lichens.

**Enhancement** – an improvement in the functions and values of an existing wetland, forest, or other natural resource.

**Exotic species** – -plants that are not indigenous to the Pacific Northwest (see invasive species).

**Field Verification** – to walk over and/or visually check an area, for example, to make a wetland determination and map wetlands (this may or may not include collecting sample plot data).

**Fish habitat** – those areas upon which fish depend in order to meet their requirements for spawning, rearing, food supply, and migration.

**Floodplain** – river valley apart from the river channel which is inundated only in a flood event, attenuating the flood discharge. The 100-year floodplain shows the flood with a 100-year recurrence interval.

**Forested Wetland** – a subclass of palustrine system (see Cowardin Class above), a wetland characterized by woody vegetation that is six meters (20 feet) tall or taller.

**Geographic Information System (GIS)** – a system of hardware, software and data storage that allows for the analysis and display of information that has been geographically referenced.

**Global Positioning System** (**GPS**) – is a navigation satellite system transmitting signals that allow GPS receivers to determine the receiver's location, speed and direction. Its primary use for the Damascus inventory is to provide accurate field position data for use in GIS (see above) to verify the location of natural features such as landslide areas, wetlands and streams.

**Goal 5** – Statewide Planning Goal (OAR Chapter 660, Division 23) intended to protect natural resources and conserve scenic and historic areas and open spaces.

**Goal 5 Inventory** – a survey, map, or description of one or more resource sites that is prepared by a local government, state or federal agency, private citizen, or other organization and that includes information about the resource values and features associated with such sites.

**Growing season** – the portion of the year when soil temperatures are above biologic zero at 50 cm (19.7").

**Herbaceous** – with the characteristics of an herb; a plant with no persistent woody stem above ground.

**Hydric soil** -a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part.

**Hydrogeomorphic Method** or **HGM** – a scientific method of wetland classification and functional assessment based on a wetland's location in the landscape and the sources and duration of water flow. The HGM approach identifies the wetland classes present in each region, defines the functions that each class of wetlands performs, and establishes reference sites to define the range of functioning of each wetland class. **HGM class** or **subclass** means the hydrogeomorphic classification of the wetland based upon its landscape position and hydrology characteristics, according to the HGM key developed by the Division of State Lands.

Hydrology – The properties, distribution, and circulation of water.

**Hydrophyte** – Any plant growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content.

**Hydrophytic vegetation** – See hydrophyte.

**Invasive species** – Those species which become established easily in disturbed conditions, reproduce readily, and often establish monocultures. Most invasive plants are non-native species. Examples of common invasive species in Damascus are: Himalayan blackberry, English ivy, and reed canarygrass.

**Indicator** – The soil, vegetation, and hydrology characteristics or other field evidence that indicate that wetlands are present.

**Indigenous Anadromous Salmonids** – Chum, sockeye, Chinook and Coho salmon, and steelhead and cutthroat trout that are members of the family Salmonidae and are listed as sensitive, threatened or endangered by a state or federal authority.

**Light Detection and Ranging (LIDAR)** is an optical remote sensing technology which measures properties of scattered light to find range and/or other information of a distant target. Its primary use for the Damascus inventory is to map landforms and allow detailed assessment of potential landslide hazards, wetlands and streams.

**Local Wetlands Inventory** (**LWI**) – A collection of maps and information about wetlands throughout a local community that provides a planning tool for balancing the protection of wetland functions with other community needs. LWIs satisfy the requirements for wetland inventories under Statewide Planning Goal 5 (Natural Resources). Once approved, LWIs become part of the Statewide Wetlands Inventory. Mapped LWI wetland boundaries are generally accurate to within 25 feet, but may be less in areas that could not be field verified. A wetland boundary delineation may be needed to determine whether regulations apply to a particular development proposal.

**Locally Significant Wetlands (LSW)** – Those wetland sites that provide functions or exhibit characteristics that are pertinent to community planning decisions made at a local scale, for example, within a UGB. These wetland sites shall be identified by local governments according to the criteria and procedures in sections 141-086-0340 and 141-086-0350.

**Native Plant Community** – A recognized assemblage of plant species indigenous to Oregon. All such wetland plant communities are listed in the most recent version of Classification and Catalog of Native Wetland Plant Communities in Oregon (Oregon Natural Heritage Information Center).

**Offsite Determination** – A wetland determination conducted without field verification using NWI maps, soils maps, and aerial photographs.

**Ordinary high-water mark** – The line on the shore established by the fluctuations of water and indicated by physical characteristics such as: a clear, natural line impressed on the bank; changes in the character of soil or vegetation; shelving; or the presence of a line of litter or debris.

**Oregon Freshwater Wetland Assessment Methodology (OFWAM)** – The method adopted by the State to evaluate and rate the relative quality of a wetland by measuring its

condition and its capacity to perform certain functions, including wildlife habitat, fish habitat, water quality, and hydrologic control. The results of the OFWAM rating is used as a basis for determination of wetland significance.

**OFWAM Evaluation Descriptor** – a summary statement describing whether the wetland is (1) intact, (2) impacted or degraded, or (3) function is lost or not present.

**Rare Plant Community** – Relictual, uncommon or unique in Oregon, determined by number of occurrences and threats following national heritage program criteria (i.e., rarity ranking of G1-G3 or S1-S3).

**Reach** – A length of channel with uniform characteristics.

**Restoration** – Restoration is the process of repairing damage to the diversity and dynamics of ecosystems. Ecological restoration is the process of returning an ecosystem as closely as possible to predisturbance conditions and functions.

**Riparian area** – The area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem.

**Riparian corridor** – A Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary.

**Riparian corridor boundary** – An imaginary line that is a certain distance upland from the top bank.

**Sample Plot** – A specific area on the ground where soils, vegetation and hydrology data are recorded on a field data form in order to make a wetland determination.

**Scrub-shrub Wetland** – A subclass of palustrine system (see Cowardin Class above), areas dominated by woody vegetation less than 6 meters (20 feet) tall. The species include tree shrubs, young trees, and trees or shrubs that are stunted because of environmental conditions.

**Significance determination** – The determination of significance of a Goal 5 resource is based on:

- (a) The quality, quantity, and location information;
- (b) Supplemental or superseding significance criteria set out in OAR 660-023-0090 through 660-023-0230; and
- (c) Any additional criteria adopted by the local government, provided these criteria do not conflict with the requirements of OAR 660-023-0090 through 660-023-0230.

**Stream** – A channel such as a river or creek that carries flowing surface water, including perennial streams and intermittent streams with defined channels, and excluding manmade irrigation channels. **Top of bank** – Has the same meaning as "bankfull stage" defined in OAR 141-085-0010(2). The stage or elevation at which water overflows the natural banks of streams or other waters of this state and begins to inundate the upland. In the absence of physical evidence, the two-year recurrence interval flood elevation may be used to approximate the bankfull stage

**Wetland** – an area that is inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances does support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

**Wetland Assessment** or **Functional Assessment** – An evaluation and rating of the relative quality of a wetland by measuring its condition and its capacity to perform certain functions.

**Wetland Boundary** – A line marked on a map that identifies the approximate wetland/non-wetland boundary.

**Wetland Condition** – The integrity of a wetland's physical and biological structure, which determines the wetland's ability to perform specific functions, as well as its resilience and enhancement opportunities.

**Wetland Delineation** – A determination of wetland presence that includes marking the wetland boundaries on the ground and/or on a detailed map prepared by professional land survey or similar accurate methods.

**Wetland Delineation Manual** or **1987 Manual** – Provides technical guidelines and methods to determine whether an area is a wetland for purposes of Section 404 of the Federal Clean Water Act. The objective of the Act is to maintain and restore the chemical, physical, and biological integrity of the waters of the United States.

Wetland Determination – Identification of an area as wetland or non-wetland.

**Wetland Function** – Characteristic action or behavior associated with a wetland that contributes to a larger ecological condition such as wildlife habitat, fish habitat, water quality, and/or flood control.

**Wetland hydrology** – The total of all wetness characteristics in areas that are inundated or have saturated soils for a sufficient duration to support hydrophytic vegetation.

**Wetland Indicator Status** – Categories of plant species based upon the estimated probabilities (expressed as a frequency of occurrence) of a species occurring in a wetland or non-wetland. Wetland indicator status (WIS) includes the following:

- <u>Obligate</u> (OBL): species that almost always occur in wetlands under natural conditions (estimated probability >99%).
- <u>Facultative wetland</u> (FACW): species that usually occur in wetlands (estimated probability 67 to 99%), but are occasionally found in non-wetlands.

- <u>Facultative</u> (FAC): Species that are equally likely to occur in wetlands or non-wetlands (estimated probability 34 to 66%).
- <u>Facultative upland</u> (FACU): species that usually occur in non-wetlands (estimated probability 67 to 99%), but are occasionally found in wetlands.
- <u>Upland</u> (UPL): species that almost always occur in non-wetlands under normal conditions (estimated probability >99%).
- <u>Not listed</u> (NL): species that are not listed and are presumed to be upland species.
- <u>No indicator status</u> (NI): species that have not yet been evaluated.

A (+) or (-) following the WIS signifies a greater or lesser likelihood of being found in wetland condition.

**Wetland Mosaic** – A complex of several wetlands smaller than one-half (0.50) acres in size each that are interspersed between areas of non-wetland.

**Wildlife Habitat** – an area upon which wildlife depend in order to meet their requirements for food, water, shelter, and reproduction.

## **Appendix B. References**

- Apostol D., C. Finlayson, F. Rosemary, and L. Esther. September 2000. Rock Creek and Richardson Creek: Landscape and Natural Resource Assessment. Metro Regional Services, Portland, Oregon.
- Bauer, Steve and Ed Salminen. 2005. Clackamas Basin Summary: Water Quality and Quantity. Prepared for Clackamas River Basin Council.
- Brody-Hein, Bruce. 2005. Memorandum: Origins of the Damascus Area Buttes and Their Relationships to Regional Groundwater Recharge
- Carpenter, K.D. 2003. Water-Quality and Algal Conditions in the Clackamas River Basin, Oregon and their Relations to Land and Water Management. USGS Report 02-4189
- Carpenter, K.D. 2004. Pesticides in the Lower Clackamas River Basin, Oregon. 2000-01. USGS Publication 03-4145
- CH2MHill. 2005. Johnson Creek Basin Stormwater Master Plan including Springwater and Pleasant Valley Areas. Prepared for City of Gresham.
- City of Portland, Bureau of Environmental Services and Johnson Creek Watershed Council. 2005. Johnson Creek Watershed Characterization
- City of Portland, Bureau of Environmental Services. 2001. Johnson Creek Restoration Plan.
- City of Portland, Bureau of Planning. November 1997. Boring Lava Domes: Supplement to The Johnson Creek Basin Protection Plan. City of Portland, Portland, Oregon. Ordinance No. 171740
- Clackamas County, Damascus Concept Planning Study Report, June 30, 2001
- Clackamas Subbasin Local Advisory Committee, Clackamas County Soil and Water Conservation District, Oregon Department of Agriculture. 2005. Clackamas Subbasin Agricultural Water Quality Management Area Plan; Guidance Document.
- Cole, Michael (ABR), Hennings, Lori (Metro). 2006. Baseline Assessment of stream habitat and macroinvertibrate communities in and adjacent to the Damascus area urban growth boundary expansion, Oregon.
- Cowardin, L.M., V. Carter, F.C. Golet, E.T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Department of the Interior, Fish

and Wildlife Service, Washington, D.C. Jamestown, ND: Northern Prairie Wildlife Research Center. (Version 04DEC98).

- Csuti, Blair, A. Jon Kimerling, Thomas A. O'Neil, Margaret M. Shaughnessy, Eleanor P. Gaines, and Manuela M. Huso. 1997. Atlas of Oregon Wildlife: Distribution, Habitat, and Natural History. Oregon State University Press. Corvallis, OR.
- Ecotrust. 2000. Rock and Richardson Creek Watershed Assessment. Clackamas River Basin Council. Clackamas, Oregon.
- Federal Highway Administration, Oregon Department of Transportation, and Clackamas County, 1993, Sunrise Corridor Highway 212/224 (I-205 to US 26), Draft Environmental Impact Statement. July 15, 1993.
- Gerig, Allen J. 1985, Soil Survey of Clackamas County Area, Oregon, U.S. Department of Agriculture, Soil Conservation Service in Cooperation with U.S. Department of the Interior, Bureau of Land Management, and Oregon Agricultural Experiment Station.
- Hennings, Lori. 2006. Bird Communities In and Adjacent to the Damascus area Urban Growth Boundary Expansion, Oregon. Metro.
- Hofmeister, R. Jon, Carol S. Hasenberg, Ian P. Madin, and Yumei Wang. Open-File Report O-03-09, Relative Earthquake and Landslide Hazards in Clackamas County and Open-File Report O-03-10, Earthquake and Landslide Hazard Maps, and Future Earthquake Damage Estimates, for Clackamas County, Oregon.
- Hollis, Michelle J. 2006 Relationships Between Land Use and Water Quality In and Near the Damascus Urban Growth Expansion Area. Portland, Oregon.
- Leferink, Robin. Anticipated December 31 2006. Riparian Shade Assessment & Restoration Priorities Analysis in the Damascus-Boring Concept Planning Area.
- Massey, J.B., G.A. Herb, P.L. Kelley, J. Heintz. 1979 Fish and Wildlife Habitat Protection Plan for Clackamas County. Oregon Department of Fish and Wildlife.
- Metro Regional Services. 1997. Clackamas River Watershed Atlas. Portland, Oregon.
- Metro Regional Services. 2001. Metro Region Species List: Portland, Oregon.
- Metro Regional Services. 2005. Metro's Riparian Corridor and Wildlife Habitat Inventories. Preliminary Draft. Portland, Oregon.
- Metro Regional Services. 2005. Title 13, Nature in the Neighborhoods, Urban Growth Management Functional Plan. Ordinance No. 05-1077C, Exhibit F

- Meyer, Judy L., L.A.Kaplan, D. Newbold, D.L. Strayer, C.J. Woltemade, J.B. Zedler, R. Beilfuss, Q. Carpenter, R. Semlitsch, M.C. Watzin, P.H. Zedler. 2003. Where Rivers Are Born: The Scientific Imperative for Defending Small Streams and Wetlands. Sierra Club American Rivers Publication
- Minor, Michael / Parametrix 2004, Environmental Baseline Report: Highway 212 Corridor Improvement, Damascus Boring Concept Plan Rock Creek Junction to US Highway 26 Clackamas County, ODOT Region 1, Highway # 212
- Oregon Department of Fish and Wildlife. 2006. Oregon Wildlife Conservation Strategy, Willamette Valley Ecoregion.
- Oregon Department of Fish and Wildlife. 1997. Sensitive Species. ODFW. Salem, OR
- Oregon Division of State Lands. 2006. Public files on Wetland Delineations, Enforcements and Compliances.
- Oregon Natural Heritage Information Center. 2006. Data System Search for Rare, Threatened and Endangered Species in the Damascus Areas. Oregon State University, Portland, Oregon.
- Oregon Natural Heritage Information Center. 2004.Rare, Threatened and Endangered Species of Oregon. Oregon State University, Portland, Oregon.
- Oregon Water Resources Department and Oregon Department of Fish and Wildlife. 2001. Streamflow Restoration Priority Areas. Salem, Oregon.
- Resource Assistance for Rural Environments/ Oregon Natural Hazards Workgroup. 2002. Clackamas County: Natural Hazards Mitigation Action Plan.
- Roth, E.M., R.D. Olsen, P.L. Snow, and R.R. Summer. 1996- 2nd Edition. Oregon Freshwater Wetland Assessment Methodology. Ed. By S.G. McCannell. Oregon Division of State Lands. Salem, Oregon.
- Runyon, John, and Ed Salminen. 2005. Clackamas Basin Summary: Fish Populations and Aquatic Riparian Habitat. Prepared for Clackamas River Basin Council.
- Runyon, John. 2005. Clackamas Basin Summary: Wildlife Habitat. Prepared for Clackamas River Basin Council.
- Salminen, Ed. 2005. Clackamas Basin Summary Watershed Overview. Prepared for Clackamas River Basin Council.
- Tanner, D.Q. and K.K. Lee. 2004. Organichlorine Pesticides in the Johnson Creek Basin, Oregon, 1988-2002. USGS Publication 2004-5061.

- The Damascus Area Design Workshop, 2002, 1000 Friends of Oregon and Coalition for a Livable Future
- United States Fish and Wildlife. June 29, 2004. Federally listed and proposed endangered and threatened species in Clackamas County. Portland, Oregon.
- URS. 2004. Rock and Richardson Creek Watersheds Master Plan. Clackamas County, OR.

Water and Environmental Services. 2006. Stormwater Master Plan. WES Clackamas OR.

## Wetland Characterization Sheet

GENERAL INFORMATION

Wetland Code:BA-A-01Wetland Size:3.71 acresCowardin Class:PEMHGM Class:RFT, F

Method: Offsite Field Date(s): 3/16/2007 Data Plot #s: Off Site Investigators: T. Brooks, A.C. Smyth

#### LOCATION

Street/landmark: West of Highway 26; south of Stone Rd., Sheet A7

Legal description: T.1S., R.3E., Section 25; Lot

Basin/sub-basin: Johnson Creek/Badger Creek

#### WETLAND CHARACTERISTICS

Description: This feature is a broad swale through a pasture with some areas of PFO downstream. The plant community where the wetland was observed consisted of a reed canarygrass monoculture; to the north and south, the plant community became more varied, both in terms of strata and species though the species were not discernable from a distance: common rush, willows and Oregon ash. The site is the subject of a DSL review (file #ENF-3899).

Soils: Wapato silty clay loam, 0 to 3 percent slopes

Hydrologic Source: Surface flow and direct precipitation

Dominant Vegetation:

| Trees | Shrubs | Vines/Herbs      |
|-------|--------|------------------|
|       |        | reed canarygrass |
|       |        |                  |
|       |        |                  |
|       |        |                  |

Potential Enhancement Opportunities:

The area is currently used for grazing/hay. Enhancement opportunities would require the cooperation of the landowner. Potential enhancement measures would include: - a removal of noxious species

- supplemental planting of native species – species diversity, habitat



## Wetland Characterization Sheet



#### **GENERAL INFORMATION**

Wetland Code:CL-A-01Wetland Size:2.7 acresCowardin Class:PEM, PSS, PFO, POWHGM Class:RFT

Method: Onsite Field Date(s): 3/1/07, 4/4/07 Data Plot #s: 1 - 5 Investigators: T. Brooks, A.C. Smyth, M. Bushman, R. Ruggiero

#### LOCATION

Street/landmark: South of Hwy. 224 and Eilers Circle; Sheet G2

Legal description: T.2S., R.3E., Section 18; TL 600

Basin/sub-basin: Clackamas River

#### WETLAND CHARACTERISTICS

Description: This feature is a backwater complex fed by a combination of river water backflow during periods of high flow and streamflow from adjacent higher ground. The wetland includes interspersed backwater sloughs, open water ponds, and streams all connected along two lineal corridors. The vegetation is a combination emergent, scrubshrub and forested community dominated by red alder, black cottonwood, dogwood, reed canarygrass, tall fescue and soft rush. Previously mapped wetlands (DET 02-0606) at this site have evolved into the current configuration due to bank armoring and recent floods (see Plot #5 in former wetland). The bank has been armored with sheet pile and riprap through this reach of the river.

Soils: Cloquato silt loam, 0-3% slopes; and Wapato silt loam 0-3% slopes

Hydrologic Source: Clackamas River

Dominant Vegetation:

| Trees            | Shrubs            | Vines/Herbs       |
|------------------|-------------------|-------------------|
| black cottonwood | red osier dogwood | tall fescue       |
| red alder        |                   | soft rush         |
|                  |                   | reed canary grass |
|                  |                   |                   |

Potential Enhancement Opportunities:

- supplemental planting of trees, shrubs – thermal cover, soil stabilization, habitat - supplemental planting of groundcover – soil stabilization, species diversity

## Wetland Characterization Sheet



#### **GENERAL INFORMATION**

Wetland Code:CL-A-02Wetland Size:0.69 acreCowardin Class:PEM, PSS, POWHGM Class:RFT

Method: Onsite Field Date(s): 3/1/2007 Data Plot #s: 1-4 Investigators: T. Brooks, A.C. Smyth, R. Ruggiero

#### LOCATION

Street/landmark: South of Hwy. 224 and Eilers Circle; Sheet G2

Legal description: T.2S. R.3E., Section 18; Lots \_\_\_\_\_

Basin/sub-basin: Clackamas River

#### WETLAND CHARACTERISTICS

Description: This feature is a backwater complex fed by a combination of river water backflow during periods of high flow and streamflow from adjacent higher ground. Vegetation is a combination of scrub-shrub, emergent, and open-water marshes dominated by willows, red alder, and reed canarygrass, with Himalayan blackberry present at the margins and in adjacent uplands.

Soils: Riverwash

Hydrologic Source: Clackamas River; unnamed small tributaries

Dominant Vegetation:

| Trees     | Shrubs  | Vines/Herbs          |
|-----------|---------|----------------------|
| red alder | willows | reed canarygrass     |
|           |         | Himalayan blackberry |
|           |         |                      |
|           |         |                      |

Potential Enhancement Opportunities:

-- removal of noxious species (Himalayan blackberry and reed canarygrass)

## Wetland Characterization Sheet

#### GENERAL INFORMATION

Wetland Code:CL-A-03Wetland Size:1.35 acresCowardin Class:PEMHGM Class:S

Method: Off site Field Date(s): N/A Data Plot #s: Off site Investigators: N/A

#### LOCATION

Street/landmark: West of Hwy. 224 near river; Sheet G1

Legal description: T.2S. R.2E., Section 13; TL

Basin/sub-basin: Clackamas River

#### WETLAND CHARACTERISTICS

Description: This site consists of a group of shallow swales and depressional wetlands generally dominated by reed canarygrass and stinging nettle with some areas of red-osier dogwood, red alder, and Pacific willow. The wetlands were delineated in 2004 as part of file WD# 04-0263. No access or off-site viewing was possible as part of the present study. The area mapped on the LWI is slightly larger than the 2004 delineation, which noted wetland "extends outside the study area."

Soils: Newberg loam, 0-3% slopes

Hydrologic Source: upslope seepage, surface flow

Dominant Vegetation:

| Trees          | Shrubs            | Vines/Herbs      |
|----------------|-------------------|------------------|
| red alder      | red-osier dogwood | reed canarygrass |
| Pacific willow |                   | stinging nettle  |
|                |                   |                  |
|                |                   |                  |

Potential Enhancement Opportunities:

- noxious vegetation removal



## Wetland Characterization Sheet



#### **GENERAL INFORMATION**

| Wetland Code:   | NO-A-01       |
|-----------------|---------------|
| Wetland Size:   | 12.92 acres   |
| Cowardin Class: | PFO, PSS, PEM |
| HGM Class:      | S/F           |

Method: Onsite Field Date(s): 3/9/07, 3/16/07 Data Plot #s: 1-2 Investigators: T. Brooks, AC Smyth

#### LOCATION

Street/landmark: North of Hoffmeister Rd., west of 242<sup>nd</sup>; Sheet D5

Legal description: T.2S., R.3E., Section 3; TL

Basin/sub-basin: Clackamas River / Noyer Creek

#### WETLAND CHARACTERISTICS

Description: This feature lies in the northwest portion of the Noyer Creek watershed. The dominant vegetation includes a moderate cover of Oregon ash and red alder in the overstory, heavy shrub cover provided by red-osier dogwood and Himalayan blackberry, and a variable herbaceous layer, dominated here by creeping buttercup. Surface flow from offsite diffuses through this area, creating a mosaic of surface ponding and subsurface soil saturation.

Adjacent uplands are dominated by Douglas fir, which, with the presence or absence of redox features, defines the wetland boundary at this location. Red alder and red-osier dogwood cross the wetland boundary.

Soils: Delena silt loam, 3 to 12 percent slopes

Hydrologic Source: Groundwater seepage; some surface flow from offsite

Dominant Vegetation:

| Trees      | Shrubs            | Vines/Herbs          |
|------------|-------------------|----------------------|
| Oregon ash | red osier dogwood | Himalayan blackberry |
| red alder  |                   | creeping buttercup   |
|            |                   |                      |
|            |                   |                      |

Potential Enhancement Opportunities:

- Removal of Himalayan blackberry and other noxious species.

### Wetland Characterization Sheet



GENERAL INFORMATION

Wetland Code:NO-A-02Wetland Size:13.96 acresCowardin Class:PFO, PEMHGM Class:S/F

Method: Offsite Field Date(s): 3/9/07 Data Plot #s: Off Site Investigators: T. Brooks, R. Ruggiero

#### LOCATION

Street/landmark: South of Hoffmeister Rd., west of 242<sup>nd</sup>; Sheet D5

Legal description: T.2S., R.3E. Section 3; TL

Basin/sub-basin: Clackamas River / Noyer Creek

#### WETLAND CHARACTERISTICS

Description: This feature is a palustrine emergent marsh dominated by a blend of soft rush and tall fescue. The margin transitions to a palustrine forested condition with Oregon ash and black cottonwood as the dominant species. Red-osier dogwood is also a dominant in this wetland. The southern part of the wetland was apparently recently cleared of trees but conditions there were not visible. From what could be viewed from off site, the NWI mapping appeared reasonably accurate and was retained as shown.

Soils: Delena silt loam, 3 to 12 percent slopes

Hydrologic Source: Stream flow and direct precipitation

Dominant Vegetation:

| Trees                     | Shrubs            | Vines/Herbs |  |
|---------------------------|-------------------|-------------|--|
| Oregon ash                | red osier dogwood | tall fescue |  |
| black cottonwood (margin) |                   | soft rush   |  |
|                           |                   |             |  |
|                           |                   |             |  |

Potential Enhancement Opportunities:

- supplemental planting of trees, shrubs – thermal cover, habitat

- supplemental planting of groundcover - soil stabilization, species diversity

## Wetland Characterization Sheet

#### **GENERAL INFORMATION**

| Wetland Code:   | NO-A-03       |
|-----------------|---------------|
| Wetland Size:   | 11.18 acres   |
| Cowardin Class: | PEM, PFO, POW |
| HGM Class:      | RFT, SV       |

Method: Onsite Field Date(s): 3/13/07, 5/16/07 Data Plot #s: 1 - 2 Investigators: A. C. Smyth, M. Bushman, T. Brooks

#### LOCATION

Street/landmark: North of Hoffmeister Rd., east of 242<sup>nd</sup>; Sheet D6

Legal description: T.2S., R.3E., Section 2; TL 600

Basin/sub-basin code: Clackamas River / Noyer Creek

#### WETLAND CHARACTERISTICS

Description: This site lies alongside Noyer Creek. An impoundment was recently removed from the stream, allowing water to fall to a lower level than was previously present. Consequently, the Riverine Flowthrough component of the wetland is now limited to the area immediately adjacent to the stream. Wetland vegetation extends well up the slope from the streambank; this portion of the wetland is driven by groundwater discharge and direct precipitation. The vegetation community is dominated by bentgrass, bird's-foot trefoil, soft rush, and patches of Himalayan blackberry. Increased presence of blackberry, English hawthorn, quackgrass, and presence of sweet vernalgrass are indicative of drier conditions. The eastern portion of the wetland includes ash forest and emergent (pasture) components.

Soils: Delena silt loam, 3 to 12 slopes

Hydrologic Source: creek; surface flow, groundwater discharge

Dominant Vegetation:

| Trees      | Shrubs         | Vines/Herbs         |
|------------|----------------|---------------------|
| Oregon ash | Douglas spirea | bird's-foot trefoil |
|            |                | reed canarygrass    |
|            |                | quackgrass          |

Potential Enhancement Opportunities:

- noxious vegetation removal

- replant bare areas exposed by dropping the water level to stabilize substrate

- increase cover over stream and in buffer to reduce heat gain, extend habitat and movement corridor



## Wetland Characterization Sheet



Wetland Code:NO-A-04Wetland Size:1.22 acresCowardin Class:PFOHGM Class:RFT

Method: Offsite Field Date(s): 4/4/2007 Data Plot #s: Off Site Investigators: T. Brooks, A. C. Smyth

#### LOCATION

Street/landmark: North of Hwy. 212, west of 232<sup>nd</sup>; Sheet E5

Legal description: T.2S., R.3E., Section 3; TL

Basin/sub-basin code: Clackamas River / Noyer Creek

#### WETLAND CHARACTERISTICS

Description: This feature is a broad area of shallow inundation. This is the headwaters of a western branch of Noyer Creek. Water is backed up by a driveway then conveyed by culvert to a ditched segment of stream. The forested character extends upstream to Highway 212. The plant community has multiple strata and a variety of subdominant species.

Soils: Delena silt loam, 0-3% slopes

Hydrologic Source: groundwater seepage, streamflow

Dominant Vegetation:

| Trees                                 | Shrubs         | Vines/Herbs        |
|---------------------------------------|----------------|--------------------|
| Oregon ash                            | Douglas spirea | corn lily          |
| · · · · · · · · · · · · · · · · · · · | peafruit rose  | creeping buttercup |
|                                       |                |                    |
|                                       |                |                    |

Potential Enhancement Opportunities:

- noxious vegetation removal

### Wetland Characterization Sheet



#### **GENERAL INFORMATION**

Wetland Code:RI-A-01Wetland Size:1.39 acresCowardin Class:PEMHGM Class:RFT

Method: Offsite Field Date(s): 4/4/2007 Data Plot #s: Off Site Investigators: T. Brooks, A. C. Smyth

#### LOCATION

Street/landmark: East of Tong Rd, south of Keller Rd; Sheet F3

Legal description: T.2S., R.3E., Section 8; Lot \_\_\_\_\_

Basin/sub-basin: Clackamas River / Richardson Creek

#### WETLAND CHARACTERISTICS

Description: This feature occurs on a gentle slope that fans out at the low end. The wetland comprises a narrow swale that bells out into a larger wet area at the low end of the topographic feature. The vegetation consists of pasture grasses (likely a *Poa - Agrostis*) and minor component of sedges and rushes with occasional clumps of peafruit rose and Himalayan blackberry occurring mainly on the periphery. The low end of the feature is bordered by a Douglas fir forest with a nearby mapped tributary to Richardson Creek. Soil survey notes area as "wet spot."

Soils: Bornstedt silt loam, 0 to 3 percent slopes

Hydrologic Source: Stream flow; some seepage from adjacent slope

Dominant Vegetation:

| Trees | Shrubs        | Vines/Herbs          |
|-------|---------------|----------------------|
|       | Peafruit rose | Pasture grasses      |
|       |               | Himalayan blackberry |
|       |               |                      |
|       |               |                      |

Potential Enhancement Opportunities: Current land use is livestock-related and current functions are low. Enhancement opportunities would require homeowner cooperation to alter the existing use or isolate the resource from those activities. Opportunities include the following:

- elimination of noxious weeds

- supplemental planting of trees, shrubs

- supplemental planting of groundcover

- treatment of roadway runoff prior to discharge to the swale

- preservation of headwater hydrology sources

### Wetland Characterization Sheet



#### **GENERAL INFORMATION**

Wetland Code:RI-C-01Wetland Size:4.67 acresCowardin Class:PEMHGM Class:S/F

Method: Off Site Field Date(s): 3/9/07, 3/21/07 Data Plot #s: Off Site Investigators: T. Brooks, A. Smyth, R. Ruggiero

#### LOCATION

Street/landmark: West of Foster Road, north of Sunnyside Road; Sheet E3

Legal description: T.2S. R.3E., Section 5; Lot \_\_\_\_

Basin/sub-basin: Clackamas River / Richardson Creek

#### WETLAND CHARACTERISTICS

Description: A large reed canarygrass dominated wetland extending north of Sunnyside Road. Wetland appears fed by two small drainageways, and by precipitation and groundwater seepage. Sunnyside Road and driveway may act as a berm, restricting outflow before discharge to culvert. Saturated soils with patchy ponding were visible in March. Soils are mapped hydric.

Soils: Borges silty clay loam, 0 to 8 percent slopes

Hydrologic Source: Direct precipitation; groundwater discharge

Dominant Vegetation:

| Trees      | Shrubs            | Vines/Herbs      |
|------------|-------------------|------------------|
| Oregon ash | red-osier dogwood | reed canarygrass |
|            |                   |                  |
|            |                   |                  |
|            |                   |                  |

Potential Enhancement Opportunities:

Portions of wetland are highly compacted or bare ground as a result of livestock grazing. Isolation of portions of wetlands from these activities would provide some enhancement. Other opportunities include:

- elímination of reed canarygrass

- planting of trees and shrubs

### Wetland Characterization Sheet



Wetland Code:RI-C-02Wetland Size:1.73 acresCowardin Class:PEM, PSSHGM Class:RFT

Method: Offsite Field Date(s): 3/9, 3/21/2007 Data Plot #s: Off Site Investigators: T. Brooks, A. Smyth

#### LOCATION

Street/landmark: North of Hwy. 212, near Red Dirt Ln.; Sheet E3

Legal description: T.2S., R.3E, Section 8, Lot 5; Lot

Basin/sub-basin: Clackamas River / Richardson Creek

#### WETLAND CHARACTERISTICS

Description: This wetland has a variety of strata with relatively good interspersion of wetland types. Scrub-shrub component is dominated by red-osier dogwood (northern end). Emergent component is dispersed through wetland, but dominated by slough sedge near Hwy. 212. Some noxious species are present and heavy in places. Wetland fed in part by stream from wetland RI-C-01. Boundary defined by vegetation and topography. Wetland was part of a DSL review (file ENF-3688).

Soils: Borges silt loam

Hydrologic Source: Stream flow

Dominant Vegetation:

| Trees          | Shrubs            | Vines/Herbs  |  |
|----------------|-------------------|--------------|--|
| Oregon ash     | red-osier dogwood | slough sedge |  |
| weeping willow |                   |              |  |
|                |                   |              |  |
|                |                   |              |  |

Potential Enhancement Opportunities:

- elimination of noxious weeds and replanting of bare areas



### Wetland Characterization Sheet

#### GENERAL INFORMATION

Wetland Code:RI-D-01Wetland Size:1.19 acresCowardin Class:PEM, PSSHGM Class:RFT

Method: Offsite Field Date(s): 3/21/2007 Data Plot #s: Off Site Investigators: T. Brooks, A. C. Smyth

#### LOCATION

Street/landmark: West of Wiese, south of Alder Springs Ct.; Sheet E3

Legal description: T.2S., R.3E., Section 4, Lots

Basin/sub-basin: Clackamas River / Richardson Creek

#### WETLAND CHARACTERISTICS

Description: This feature is a narrow, incised drainage with a wetland margin. Wetland hydrology is driven by high flows into the narrow floodplain and groundwater support from hyporheic flows. Vegetation in the areas subject to flooding consists of red alder, salmonberry, and lawn/pasture grasses (likely blue- and bentgrasses). Adjacent uplands are dominated by red alder, red elderberry, and Himalayan blackberry. Douglas fir, osoberry, and sword fern are subdominant in the uplands. Lower section of wetland widens before being constrained by fills/embankments associated with development and parking areas. Lower section was mapped as part of DET 99-0117.

Soils: Cascade silt loam

Hydrologic Source: Stream flow

Dominant Vegetation:

| Trees     | Shrubs      | Vines/Herbs |  |
|-----------|-------------|-------------|--|
| red alder | salmonberry | grasses     |  |
|           |             |             |  |
|           |             |             |  |
|           |             |             |  |

Potential Enhancement Opportunities:

- elimination of noxious weeds

- stabilization of upstream sediment sources

- treatment of roadway runoff prior to discharge to the stream



### Wetland Characterization Sheet



#### GENERAL INFORMATION

Wetland Code:RI-D-02Wetland Size:1.61 acresCowardin Class:PEM, PSS, POWHGM Class:RFT

Method: Offsite Field Date(s): 4/4/2007 Data Plot #s: Off Site Investigators: T. Brooks, A. C. Smyth

#### LOCATION

Street/landmark: South of Old Barn Ln, East of Royer Rd, Sheet E4

Legal description: T.2S. R.3E. Section 60; Lots \_\_\_\_

Basin/sub-basin: Clackamas River / Richardson Creek

#### WETLAND CHARACTERISTICS

Description: Stream-associated wetland with 2-3 on-line, excavated ponds. Outside of ponds (open water), scrub-shrub area is dominated by a willow thicket. Slough sedge and skunk cabbage visible in part of emergent area. Exposed soils of low chroma and many redox. features.

Soils: Bornstedt silt loam, 0-8% slopes

Hydrologic Source: Stream flow

Dominant Vegetation:

| Trees | Shrubs         | Vines/Herbs  |  |
|-------|----------------|--------------|--|
|       | willow         | slough sedge |  |
|       | Douglas spirea |              |  |
|       |                |              |  |

Potential Enhancement Opportunities:

- supplemental planting of trees, shrubs - thermal cover, habitat

- supplemental planting of groundcover to improve diversity
- removal of noxious species in the riparian area

### Wetland Characterization Sheet



#### GENERAL INFORMATION

Wetland Code:RI-E-01Wetland Size:2.13 acresCowardin Class:PEM, PSSHGM Class:RFT, SH

Method: Onsite Field Date(s): 3/16/07 Data Plot #s: 1 – 2 Investigators: T. Brooks, A. C. Smyth

#### LOCATION

Street/landmark: North of Hwy 212, west of 232<sup>nd</sup>, Sheet E4

Legal description: T.2S. R.3E. Section 4; Lots \_\_\_\_\_

Basin/sub-basin: Clackamas River / Richardson Creek

#### WETLAND CHARACTERISTICS

Description: This feature is broad swale along an unnamed tributary to Richardson Creek. The wetland is dominated by reed canarygrass, with a central thicket of willows. The primary water source is the stream. Highway 212 creates a partial impoundment slowing water outflow. Soils were marginal but wetland may have developed fairly recently as a result of a failed Highway 212 culvert.

Soils: Bornstedt silt loam, 0-8% slopes

Hydrologic Source: Stream flow

Dominant Vegetation:

| Trees | Shrubs | Vines/Herbs      |
|-------|--------|------------------|
|       | willow | reed canarygrass |
|       |        |                  |
|       |        |                  |

Potential Enhancement Opportunities:

- noxious vegetation removal

- increase cover over stream and in buffer to reduce heat gain, provide habitat and movement corridor

### Wetland Characterization Sheet

#### GENERAL INFORMATION

Wetland Code:RO-A-01Wetland Size:0.81 acreCowardin Class:PEMHGM Class:RFT

Method: Onsite Field Date(s): 3/9/2007 Data Plot #s: 1 – 2 Investigators: T. Brooks, R. Ruggiero

#### LOCATION

Street/landmark: South of Hwy. 212, west of Venice Ridge; Sheet F1

Legal description: T.2S., R.2E., Section 12; Lots

Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: Stream corridor with braided channels dominated by reed canarygrass and field horsetail. Red alder and Himalayan blackberry are located at the fringes. Recent sediment deposits were observed at this location. Boundary defined by topographic drainage as floodplain transitions to steeper slopes of ravine walls. Upper end of wetland within parkland.

Soils: Woodburn silt loam, 3 to 8 percent

Hydrologic Source: stream flow

Dominant Vegetation:

| Trees     | Shrubs               | Vines/Herbs      |
|-----------|----------------------|------------------|
| red alder | Himalayan blackberry | field horsetail  |
|           |                      | reed canarygrass |
|           |                      |                  |
|           |                      |                  |

Potential Enhancement Opportunities:

- sediment stabilization - source is upstream

- noxious vegetation removal



### Wetland Characterization Sheet



#### **GENERAL INFORMATION**

Wetland Code:RO-A-02Wetland Size:1.86 acresCowardin Class:PFO, PEMHGM Class:SV

Method: Onsite Field Date(s): 3/9/07, 4/4/07 Data Plot #s: 1 – 2 Investigators: T. Brooks, A. C. Smyth, R. Ruggiero

#### LOCATION

Street/landmark: East of Hwy 212-Hwy 224 intersection; Sheet F1

Legal description: T.2S., R.2E., Section 12; Lots \_\_\_\_

Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: This feature consists of a Pacific willow – red alder – black cottonwood forest with willows in the understory. Groundcover consists of creeping buttercup and stinging nettle. The trees are generally young. Beaver have been active in this area. It appears that the adjacent stream may occasionally flood into the wet margins, but the primary hydrology source is seepage from the upslope side. Site subject to a prior DSL permit review (file #RP 8686); construction has altered wetland configuration.

Soils: Woodburn silt loam

Hydrologic Source: Groundwater discharge from adjacent slopes

Dominant Vegetation:

| Trees            | Shrubs  | Vines/Herbs        |
|------------------|---------|--------------------|
| Pacific willow   | willows | creeping buttercup |
| red alder        |         |                    |
| black cottonwood |         | · · · · ·          |
|                  |         |                    |

Potential Enhancement Opportunities:

This area lies between two major roadways and is also a utility corridor. Enhancement opportunities are limited to the removal of noxious species where present.

### Wetland Characterization Sheet

#### **GENERAL INFORMATION**

Wetland Code:RO-A-03Wetland Size:3.47 acresCowardin Class:POW, PEMHGM Class:RFT

Method: Onsite Field Date(s): 4/4/2007 Data Plot #s: 1 – 2 Investigators: T. Brooks, A.C. Smyth

#### LOCATION

Street/landmark: North of Orchard View Ln; Sheet F1

Legal description: T.2S. R.2E. Section 12; Lots \_\_\_\_\_

Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: This feature comprises the riparian corridor around Rock Creek. Dominant vegetation in the wetland area is tall mannagrass with small amounts of American speedwell, skunk cabbage, and other hydrophytes. Above the sharp topographic break, the uplands are dominated by Himalayan blackberry (which exceeded 90 percent cover before the recent work to remove it) and weedy annuals. Some mature trees persist in the riparian corridor in this reach and are heavier upstream – species include western red cedar, bigleaf maple, Oregon ash, and Douglas fir. The open water component includes a large excavated pond that is a landscape feature for a housing development and hydrologically connected to the emergent wetland.

Soils: Bornstedt silt loam

Hydrologic Source: Surface flow and direct precipitation

Dominant Vegetation:

| Trees | Shrubs | Vines/Herbs     |
|-------|--------|-----------------|
|       |        | tall mannagrass |
|       |        |                 |
|       |        |                 |

Potential Enhancement Opportunities:

Much of the adjacent riparian areas are developed and planted with lawn grass and ornamental species. Enhancement opportunities would require the cooperation of the landowner.

- removal of noxious species

- supplemental planting of native species – species diversity, habitat, water quality

- buffer plantings to slow lawn runoff and absorb nutrients, pesticides



### Wetland Characterization Sheet



#### GENERAL INFORMATION

Wetland Code:RO-B-01Wetland Size:1.16 acresCowardin Class:PFOHGM Class:RFT

Method: Offsite Field Date(s): 3/21/07 Data Plot #s: Off Site Investigators: T. Brooks; A. C. Smyth

#### LOCATION

Street/landmark: South and east of Brent Ave; Sheet E2

Legal description: T.2S. R.3E. Section 6; Lots \_\_\_\_\_

Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: This feature is an ash swale along an unnamed tributary to Rock Creek. The channel is sinuous and braided in areas, and the wetland generally extends out to the edge of the channel migration zone. Small open water areas were visible from off-site; at least one of these is an on-line excavated pond. With observation limited to Brent Street, upstream, downstream, and eastern boundaries were approximated.

Soils: Cascade silt loam, 3-8% slopes

Hydrologic Source: stream flow

Dominant Vegetation:

| Trees      | Shrubs | Vines/Herbs      |
|------------|--------|------------------|
| Oregon ash |        | reed canarygrass |
|            |        |                  |
|            |        |                  |
|            |        |                  |

Potential Enhancement Opportunities:

- noxious vegetation removal

- increase cover over stream and in buffer to reduce heat gain, extend habitat and movement corridor

### Wetland Characterization Sheet

#### **GENERAL INFORMATION**

| Wetland Code:   | RO-D-01       |
|-----------------|---------------|
| Wetland Size:   | 26.86 acres   |
| Cowardin Class: | PEM, PFO, POW |
| HGM Class:      | SH            |

Method: Offsite Field Date(s): 3/6/2007 Data Plot #s: 1 - 3 Investigators: M. Bushman; T. Brooks; A. C. Smyth

#### LOCATION

Street/landmark: West of Foster, north of Hemrick Rd; Sheet B2

Legal description: T.1S., R.3E. Sections 30, 70; Lots \_\_\_\_\_

Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: This unit consists of a broad swale dominated by a herbaceous plant community. Reed canarygrass, soft rush, and bird's-foot trefoil dominate the swale area and the adjacent side slopes affected by groundwater discharge. The area above the groundwater discharge zone is dominated by Himalayan blackberry and Canada thistle. Smaller open water areas exist in the form of excavated ponds and one ash forest area has been preserved near the north end of the wetland.

Soils: Huberly silt loam

Hydrologic Source: Seepage, some surface flow from side slopes

Dominant Vegetation:

| Trees | Shrubs | Vines/Herbs         |
|-------|--------|---------------------|
|       |        | reed canarygrass    |
|       |        | bird's-foot trefoil |
|       |        | soft rush           |
|       |        | creeping bentgrass  |

Potential Enhancement Opportunities: Currently, this area is in active use, in part as pasture. Any enhancement actions would require owner cooperation to change land use practices. Opportunities include the following:

- elimination of noxious weeds

- supplemental planting of trees, shrubs along stream

- supplemental planting of groundcover

- expansion of riparian corridor with native plantings in wetlands and uplands

- ash forest area may provide a useful reference site for restoration activities



### Wetland Characterization Sheet



#### **GENERAL INFORMATION**

Wetland Code:RO-D-02Wetland Size:2.19 acresCowardin Class:PEMHGM Class:RFT

Method: Offsite Field Date(s): 3/6/2007 Data Plot #s: Off Site Investigators: A. C. Smyth, M Bushman

#### LOCATION

Street/landmark: Stream passes under driveway south of Hemrick Road; Sheet B2

Legal description: T.1S. R.3E., Section 31; Lots

Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: This feature consists of a wetland margin vegetated with reed canarygrass (*Phalaris arundinacea*) and pasture grasses around a small area that is likely permanently ponded. The stream flows from north to south under a culverted gravel driveway. The wetland areas are variable in width depending upon the steepness of the adjacent sideslopes and the contribution of hydrology from subsurface discharge. The hydrology source is primarily stream flow, supplemented by some seepage on the west slope. The wetland boundary is defined by the absence of visible surface seepage from upslope and the transition from a *Phalaris*-dominated community to one dominated by a pasture grass-weedy forb assemblage.

Soils: Huberly silt loam, 0 to 3 percent slopes

Hydrologic Source: Stream flow; some seepage from adjacent slope

Dominant Vegetation:

| Trees | Shrubs | Vines/Herbs      |
|-------|--------|------------------|
|       |        | Reed canarygrass |
|       |        |                  |
|       |        |                  |
|       |        |                  |

Potential Enhancement Opportunities:

Opportunities include the following:

- elimination of noxious weeds
- supplemental planting of trees, shrubs thermal cover, habitat
- supplemental planting of groundcover soil stabilization

### Wetland Characterization Sheet

#### **GENERAL INFORMATION**

Wetland Code:RO-E-01Wetland Size:19.43 acresCowardin Class:PEM / PFO / POWHGM Class:RFT / SV

Method: Onsite Field Date(s): 3/16/2007 Data Plot #s: 1 - 2 Investigators: M. Bushman T. Brooks, A. C. Smyth, R. Ruggiero

#### LOCATION

Street/landmark: East of Foster at Hemrick Rd; Sheet B2-B3 Legal description: T.1S. R.3E. Section 29; Lots \_\_\_\_\_; TL 100 Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: The majority of this wetland consists of a cottonwood forest that was inaccessible but reviewed as part of DET 99-0021 and DET 96-0242. Access was provided to a portion of the wetland on a long slope down to a drainage. The slope is a grazed pasture dominated by bird's-foot trefoil, white clover, and creeping bentgrass. The riparian margin is dominated by black cottonwood and Himalayan blackberry, with a complex herbaceous community with pasture grasses and native wetland sedges and rushes. This area receives some overbank flow from the waterway in addition to hydrology from the slope wetland above the area influenced by the stream.

Soils: Powell silt loam, 0 to 8 percent slopes

Hydrologic Source: Seepage, some surface flow from precipitation

Dominant Vegetation:

| Trees                                  | Shrubs | Vines/Herbs          |
|--|--------|----------------------|
| Black cottonwood                       |        | Kentucky bluegrass   |
|  |        | bird's-foot trefoil  |
| *******                                |        | Himalayan blackberry |
| ······································ | *****  | creeping bentgrass   |

Potential Enhancement Opportunities: Currently, a portion of this wetland is in active use as a horse pasture. Any enhancement actions would require owner cooperation to change land use practices. Opportunities include the following:

- elimination of noxious weeds

- supplemental planting of trees, shrubs along stream

- supplemental planting of groundcover

- expansion of riparian corridor with native plantings in wetlands and uplands



### Wetland Characterization Sheet

# WINTER BROOK

#### **GENERAL INFORMATION**

Wetland Code:RO-F-01Wetland Size:1.14 acresCowardin Class:PEM / PFOHGM Class:RFT

Method: Off site Field Date(s): 3/16/2007 Data Plot #s: Off site Investigators: M. Bushman R. Ruggiero

#### LOCATION

Street/landmark: West of 22<sup>nd</sup>, north of Tillstrom Rd; Sheet C4

Legal description: T.1S., R.3E., Section 33; Lots

Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: This feature includes an emergent component dominated by slough sedge and cattail, and a forested area comprised mostly of cottonwood. Water enters site in a small drainage from 222<sup>nd</sup> Avenue. This site was mapped on NWI, and modified here based on off-site observation and LiDAR.

Soils: Cascade silt loam, 15 – 30 % slopes

Hydrologic Source: stream flow

Dominant Vegetation:

| Trees            | Shrubs | Vines/Herbs  |
|------------------|--------|--------------|
| black cottonwood |        | slough sedge |
|                  |        | cattails     |
|                  |        |              |

Potential Enhancement Opportunities:

- increase cover over stream and in buffer west of 222<sup>nd</sup> Avenue

### Wetland Characterization Sheet

**RO-F-02** 

3.96 acres

RFT/SV





#### GENERAL INFORMATION

Cowardin Class: PEM / PFO

Wetland Code:

Wetland Size:

HGM Class:

Method: Onsite Field Date(s): 3/16/2007 Data Plot #s: 1 - 4 Investigators: M. Bushman R. Ruggiero

#### LOCATION

Street/landmark: East end of Heuke Rd; Sheet C3

Legal description: T.1S., R.3E., Section 38; Lots \_\_\_\_; TL 400

Basin/sub-basin: Clackamas River / Rock Creek

#### WETLAND CHARACTERISTICS

Description: A stream-associated wetland with varied topographic and hydrologic elements. Emergent area includes a low lying reed canarygrass terrace north of the stream and a slope wetland fed by multiple seeps to the south. An alder forest wetland continues along the stream to the east. Seeps are common in this area and other seep-fed wetlands may exist nearby.

Soils: Delena silt loam, 3 to 12 percent slopes

Hydrologic Source: Seepage; lower areas influenced by stream flow

Dominant Vegetation:

| Trees     | Shrubs               | Vines/Herbs        |
|-----------|----------------------|--------------------|
| red alder | Himalayan blackberry | Kentucky bluegrass |
|           |                      | reed canarygrass   |
|           |                      |                    |

Potential Enhancement Opportunities:

Opportunities include the following:

- elimination of noxious weeds in riparian area
- supplemental planting of trees, shrubs thermal cover, habitat
- supplemental planting of groundcover erosion control

- reduce spraying of lower section of Christmas tree farm to lesson potential impacts on water quality and aquatic life. Avoid all spraying within 50' of streams and tributaries.

### Wetland Characterization Sheet

#### **GENERAL INFORMATION**

Wetland Code:SU-A-01Wetland Size:1.39 acresCowardin Class:PEM, POWHGM Class:SH

Method: Off site Field Date(s): 3/4/2007 Data Plot #s: Off site Investigators: T Brooks, R Ruggiero

#### LOCATION

Street/landmark: West of 250<sup>th</sup> at Victoria St; Sheet C6 Legal description: T.1S., R.3E., Section 35; Lots \_\_\_\_\_ TL 800 Basin/sub-basin: Johnson Creek / Sunshine Creek

#### WETLAND CHARACTERISTICS

Description: This wetland formed below drain tile outfalls. The vegetation community has a Kentucky bluegrass (*Poa palustris*) – tall fescue (*Festuca arundinacea*) dominated herbaceous layer. Patches of willow occur near the center and at the edges of the wetland. Wetland conditions are well defined by topography and a transition to a drier community dominated by Himalayan blackberry and English ivy.

Soils: Cascade silt loam, 8 to 15 percent slopes

Hydrologic Source: Precipitation and runoff collected by drain tile and discharged.

#### Dominant Vegetation:

| Trees | Shrubs         | Vines/Herbs        |  |
|-------|----------------|--------------------|--|
|       | Pacific willow | Kentucky bluegrass |  |
|       |                | Tall fescue        |  |
|       |                |                    |  |

Potential Enhancement Opportunities: Adjacent land use is farming and current functions are limited. Opportunities include the following:

- supplemental planting of trees, shrubs – thermal cover, habitat - supplemental planting of groundcover – soil stabilization, diversity



### Wetland Characterization Sheet



#### GENERAL INFORMATION

| Wetland Code:   | SU-A-02     |
|-----------------|-------------|
| Wetland Size:   | 25.48 acres |
| Cowardin Class: | PFO, PEM    |
| HGM Class:      | SV, RFT     |

Method: Onsite Field Date(s): 3/6/2007 Data Plot #s: 1 – 4 Investigators: A. C. Smyth, M Bushman

#### LOCATION

Street/landmark: East of 242<sup>nd</sup>, north of Sunshine Valley Rd; Sheet B6

Legal description: T.1S., R.3E., Section 26; Lots \_\_\_\_; TL 200; TL 400

Basin/sub-basin: Johnson Creek / Sunshine Creek

#### WETLAND CHARACTERISTICS

Description: This feature consists of Sunshine Creek and its adjacent wetlands. The stream flows south through pasture used for hay production. The wetland margin immediately adjacent to Sunshine Creek receives some overbank flows and is classified as PEM/RFT. This margin supports some pasture grasses but has large bare areas near the stream. To the east is a large PEM / SV wetland fed by groundwater discharge and a spring. This broad wetland is dominated by a herbaceous community whose main components are tufted hairgrass (*Deschampsia cespitosa*), soft rush (*Juncus effusus*), redtop (*Agrostis gigantea*), and slough sedge (*Carex obnupta*).

Some small forested inclusions are also present. These are dominated by Oregon ash and slough sedge with areas of red alder, Himalayan blackberry, and pasture grasses. The stream channel shows signs of downcutting and channel erosion, possibly a result of changes in hydroperiod and water quantity.

Soils: Delena silt loam, 3 to 12 percent slopes

Hydrologic Source: Stream flow immed. adjacent to stream; aquifer discharge above. Dominant Vegetation:

| Trees      | Shrubs               | Vines/Herbs      |
|------------|----------------------|------------------|
| Oregon ash | Himalayan blackberry | tufted hairgrass |
| red alder  |                      | soft rush        |
|            |                      | Redtop           |
|            |                      | slough sedge     |

Potential Enhancement Opportunities: Current land use is hay production and current functions are low. Enhancement opportunities would require homeowner cooperation to alter the existing use or isolate the resource from those activities. Opportunities include the following:

- elimination of noxious weeds

- supplemental planting of trees, shrubs - thermal cover, habitat

- supplemental planting of groundcover in bare areas - soil stabilization

- hydraulics analysis to mitigate effects of changes in hydroperiod

### Wetland Characterization Sheet



#### GENERAL INFORMATION

| Wetland Code:   | SU-A-03    |
|-----------------|------------|
| Wetland Size:   | 1.16 acres |
| Cowardin Class: | PEM, PSS   |
| HGM Class:      | SV, RFT    |

Method: Onsite Field Date(s): 2/22, 3/6/2007 Data Plot #s: 1, 2, 3 Investigators: T. Brooks, A Smyth M Bushman, R. Ruggiero

#### LOCATION

Street/landmark: South end of Hideaway Ct; Sheet A6

Legal description: T.1S., R.3E., Section 26; Lots \_\_\_\_; TL 1908

Basin/sub-basin: Johnson Creek / Sunshine Creek

#### WETLAND CHARACTERISTICS

Description: This feature consists of Sunshine Creek and an adjacent wetland mosaic. The stream is somewhat incised through this reach but still exhibits overland discharge at peak flows. The riparian zone is well vegetated with a combination of native and exotic/noxious species. The adjacent wetland areas are used for pasture and rural residential uses; most of the vegetation has been converted to non-native species (pasture and ornamental).

The wetland areas in pastures receive hydrologic support from surface and subsurface water movement. Wetland conditions occur in a mosaic pattern, with wetlands present where the soil has a restrictive layer in surface or near-surface horizons. An estimated 60 percent of the mapped area of this mosaic is wetland. A drainage effect was noted near the creek where Douglas fir and other non-wetland species are present.

Soils: Powell silt loam, 0 to 8 percent slopes

Hydrologic Source: Stream flow immediately adjacent to stream; aquifer discharge and surface runoff above.

Dominant Vegetation:

| Trees | Shrubs            | Vines/Herbs          |
|-------|-------------------|----------------------|
|       | red-osier dogwood | creeping bentgrass   |
|       | willows           | Sedges               |
|       |                   | Himalayan blackberry |

Potential Enhancement Opportunities: Current land use is pasture and current functions are low. Enhancement opportunities would require homeowner cooperation to alter the existing use or isolate the resource from those activities. Opportunities include the following:

- supplemental planting of trees, shrubs – thermal cover, habitat, buffering

- supplemental planting of groundcover to improve diversity and add native component - removal of noxious species in the riparian zone



GENERAL INFORMATION

| Wetland Code: BA-A-01          | Field date: <u>3/16/07</u>                  |
|--------------------------------|---|
| Wetland Class: <u>PEM, PFO</u> | Investigators: <u>AS, TB</u>                |
| Method: 🗌 on-site 🔀 off-site   | <b>Observation point:</b> <u>Highway 26</u> |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | a                   | a            | b             | Ъ                  |             |
| 2             | b                   | Ъ            | a             | a                  |             |
| 3             | b                   | c            | a             | b                  |             |
| 4             | с                   | a            | b             | b                  |             |
| 5             | a                   | с            | a             | b                  |             |
| 6             | a                   | c            | с             | a                  |             |
| 7             | a                   | -            |               | b                  |             |
| 8             | с                   |              |               |                    |             |
| 9             | a                   |              |               |                    |             |
| Descriptor    | some                | degraded     | intact        | degraded           | not approp. |

| <ul> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Metland is publicly owned and has "educational uses" and such use is documented for that site.</li> </ul>   |  |           | <u> </u>    |
|---|--|-----------|-------------|
| a) created for the purpose of controlling, storing, or maintaining stormwater;   b) used for active surface mining or active log ponds;   c) a ditch without free and open connection to natural waters of the state and no food or game fish;   d) less than one acre in size and created unintentionally from irrigation or construction; or   e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,   settling of sediment, cooling industrial water; or as a golf course hazard.   2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086. <b>Exclusion criteria met? XW Criteria.</b> Wetland is locally significant if it meets one or more of the following criteria:   1. Wetland provides "intaet" fish habitat.   2. Wetland provides "intaet" hydrologic control function.   3. Wetland provides "intaet" hydrologic control function.   4. Wetland provides "intaet" hydrologic control function.   5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the   wetland so ne or more rare plant communities.   7. Wetland bas a direct surface water connection to a stream segment mapped by ODFW as habitat for   midgenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat for   1. Wetland represents a locally significant if it meets one or more of the following criteria:   7. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for   midgenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat for   midgenous anadromous salmonids, and has "intact" or "impacted or de  | <b>Exclusions.</b> Wetland is not locally significant if one of the following conditions applies:        | Yes       | No          |
| b) used for active surface mining or active log ponds;       c) a ditch without free and open connection to natural waters of the state and no food or game fish;         d) less than one acre in size and created unintentionally from irrigation or construction; or       c) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intext" fish habitat.       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intext" fish habitat.       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intact" hydrologic control function.       Image: Sediment, cooling industrial water, or as a golf course hazard.         3. Wetland provides "intact" hydrologic control function.       Image: Sediment, cooling industrial water, or "impacted or degraded."         4. Wetland is less than ½ mile from a DEQ water quality limited water body (303 (d) list) and the method water and or endangered.       Image: Sediment, connection to a stream segment mapped by ODFW as habitat for indigenous anadormous salmonids, and has "intact" or "impacted or degraded." fish habitat function.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadormous salmonids, and has "intact" or "impacted or degraded." fish habitat for indigenous anadormous salmonids, and h   |  |           |             |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acre in size and created unintentionally from irrigation or construction; or         c) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.       Image: Course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Course hazard.         1. Wetland provides "diverse" wildlife habitat.       Image: Course hazard.         2. Wetland provides "intact" fish habitat.       Image: Course hazard.         3. Wetland provides "intact" hydrologic control function.       Image: Course hazard.         4. Wetland provides "intact" hydrologic control function.       Image: Course hazard.         5. Wetland is losally significant if it meets one or more of the following criteria:       Image: Course hazard.         6. Wetland contains one or more rare plant communities.       Image: Course hazard.         7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Course hazard.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat; c) "intact" or "habitat for some wildlife species"; b) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" fish habitat; c) "intact" or "imp  | a) created for the purpose of controlling, storing, or maintaining stormwater;                           |           |             |
| d) less than one acre in size and created unintentionally from irrigation or construction; or       c) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Stock of the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Stock of the purpose of the following criteria met?         1. Wetland provides "intact" fish habitat.       Image: Stock of the purpose of the following criteria:       Image: Stock of the purpose of the following criteria:         3. Wetland provides "intact" fish habitat.       Image: Stock of the purpose of the following criteria:       Image: Stock of the purpose of the following criteria:         4. Wetland provides "intact" fish habitat.       Image: Stock of the purpose of the following criteria:       Image: Stock of the purpose of the following criteria:         5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the image: Stock of the described as "intact" or "impacted or degraded."       Image: Stock of the purpose of the following criteria:         7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Stock of the following criteria:         8. Wet  |  |           |             |
| c) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,<br>setting of sediment, cooling industrial water, or as a golf course hazard. 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.          Exclusion criteria       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intact" fish habitat.       Image: Sediment, cooling industrial water, or as a golf course hazard.         3. Wetland provides "intact" fish habitat.       Image: Sediment, cooling industrial water quality function.         4. Wetland provides "intact" hydrologic control function.       Image: Sediment, cooling industrial water quality function.         5. Wetland is less than ½ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."         6. Wetland contains one or more rate plant communities.       Image: Sediment, cooling industrial water, or "impacted or degraded."         7. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous salmonids, and has "intact" or "impacted or degraded" fish habitat for indigenous salmonids, and has "intact" or "impacted or degraded" fish habitat for some wildlife species"; b) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" hydrologic control.  | c) a ditch without free and open connection to natural waters of the state and no food or game fish;     |           |             |
| settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Settlement of the settlement of t                                    | d) less than one acre in size and created unintentionally from irrigation or construction; or            |           |             |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: State          |  |           |             |
| Exclusion criteria met?       Image: Section of the following criteria:         1. Wetland provides "diverse" wildlife habitat.       Image: Section of the following criteria:       Image: Section of the following criteria:         2. Wetland provides "intact" fish habitat.       Image: Section of the following criteria:       Image: Section of the following criteria:         3. Wetland provides "intact" hydrologic control function.       Image: Section of the following criteria:       Image: Section of the following criteria wet in the following criteria wet in the form a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Section of the following criteria wet intact of the following criteria wet is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Section of the following criteria:         4. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Section of the following criteria:         7. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:       Image: Section of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:       Image: Section of the following criteria:         2. Wetland is publicly owned and has "educational uses" and such use is documented for that si   |  |           |             |
| LSW Criteria.       Wetland is locally significant if it meets one or more of the following criteria:       Image: Content is content in the image: Content is content in the image: Content in t                   | 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  |           |             |
| 1. Wetland provides "diverse" wildlife habitat.       Image: Control of the species of          | Exclusion criteria met?  |           |             |
| <ul> <li>2. Wetland provides "intact" fish habitat.</li> <li>3. Wetland provides "intact" water quality function.</li> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>C</li> </ul>  | LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |           |             |
| <ul> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>C</li> </ul>  | 1. Wetland provides "diverse" wildlife habitat.  |           |             |
| <ul> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>C</li> </ul>  | 2. Wetland provides "intact" fish habitat.   |           | $\boxtimes$ |
| <ul> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> </ul>   | 3. Wetland provides "intact" water quality function.   | $\square$ |             |
| <ul> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> </ul>   | 4. Wetland provides "intact" hydrologic control function.  |           | $\boxtimes$ |
| <ul> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> </ul>  | 5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the        |           | $\square$   |
| sensitive, threatened or endangered.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function. <b>Dptional LSW Criteria.</b> Wetland is locally significant if it meets one or more of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:         a) "diverse habitat" or "habitat for some wildlife species";         b) "intact" or "impacted or degraded" fish habitat;         c) "intact" or "impacted or degraded" hydrologic control.         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.         Dytional LSW criteria met?  | wetland's water quality function is described as "intact" or "impacted or degraded."                     |           |             |
| sensitive, threatened or endangered.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function. <b>Dptional LSW Criteria.</b> Wetland is locally significant if it meets one or more of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:         a) "diverse habitat" or "habitat for some wildlife species";         b) "intact" or "impacted or degraded" fish habitat;         c) "intact" or "impacted or degraded" hydrologic control.         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.         Dytional LSW criteria met?  | 6. Wetland contains one or more rare plant communities.  |           | $\boxtimes$ |
| <ul> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Optional LSW criteria met?</li> </ul>   | 7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as  |           | $\square$   |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.          LSW criteria met?       Image: Complexity of the comp | sensitive, threatened or endangered.   |           |             |
| LSW criteria met?       Image: Content and the second          |  |           |             |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Second Secon          | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       |           |             |
| <ol> <li>Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Optional LSW criteria met?</li> </ol>   |  | $\square$ |             |
| <ol> <li>Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Optional LSW criteria met?</li> </ol>   | Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: | 1         |             |
| b) "intact" or "impacted or degraded" fish habitat;          c) "intact" or "impacted or degraded" water quality; or          d) "intact" or "impacted or degraded" hydrologic control.          2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.          Optional LSW criteria met?  | 1. Wetland represents a locally unique native plant community AND provides:                              |           | $\square$   |
| <ul> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Optional LSW criteria met?</li> </ul>   | a) "diverse habitat" or "habitat for some wildlife species";   |           |             |
| d) "intact" or "impacted or degraded" hydrologic control.         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.         Optional LSW criteria met?  | b) "intact" or "impacted or degraded" fish habitat;  |           |             |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.   |  |           |             |
| Optional LSW criteria met?  |  |           |             |
|   | 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.        |           |             |
|   |  |           |             |
| Determination: Wetland is locally significant   | Determination: Wetland is locally significant  |           |             |



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**GENERAL INFORMATION** 

| Wetland Code: CL-A-01      |              |
|----------------------------|--------------|
| Wetland Class: PFO, PSS PE | <u>, POW</u> |
| Method: 🛛 on-site 🗌 off-si | te           |

Field date: <u>3/1/07, 4/4/07</u> Investigators: <u>AS, TB, RR, MB</u> Observation point: <u>Data Plots</u>

### FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | а                   | a            | а             | a                  |             |
| 2             | a                   | a            | a             | a                  |             |
| 3             | a                   | a            | a             | b                  |             |
| 4             | C                   | c            | b             | b                  |             |
| 5             | a                   | a            | с             | а                  |             |
| 6             | a                   | a            | а             | c                  |             |
| 7             | с                   |              |               | a                  |             |
| 8             | а                   |              |               |                    |             |
| 9             | а                   |              |               |                    |             |
| Descriptor    | some                | intact       | intact        | intact             | not approp. |

| Exclusions. Wetland is not locally significant if one of the following conditions applies:               | Yes         | No          |
|--|-------------|-------------|
| 1. Wetland is artificially created entirely from upland AND is either:                                   |             | $\boxtimes$ |
| a) created for the purpose of controlling, storing, or maintaining stormwater;                           |             |             |
| b) used for active surface mining or active log ponds;   |             |             |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;     |             |             |
| d) less than one acre in size and created unintentionally from irrigation or construction; or            |             |             |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,        |             |             |
| settling of sediment, cooling industrial water, or as a golf course hazard.                              |             |             |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  |             | $\boxtimes$ |
| Exclusion criteria met?  |             | $\square$   |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |             |
| 1. Wetland provides "diverse" wildlife habitat.  |             | $\boxtimes$ |
| 2. Wetland provides "intact" fish habitat.   | $\square$   |             |
| 3. Wetland provides "intact" water quality function.   |             |             |
| <ol><li>Wetland provides "intact" hydrologic control function.</li></ol>                                 | $\square$   |             |
| 5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the        | $\square$   |             |
| wetland's water quality function is described as "intact" or "impacted or degraded."                     |             |             |
| 6. Wetland contains one or more rare plant communities.  |             | $\boxtimes$ |
| 7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as  |             | $\boxtimes$ |
| sensitive, threatened or endangered.   |             |             |
| 8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for       | Ø           |             |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       |             |             |
| LSW criteria met?  | $\boxtimes$ |             |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |             |
| 1. Wetland represents a locally unique native plant community AND provides:                              |             | $\boxtimes$ |
| a) "diverse habitat" or "habitat for some wildlife species";   |             |             |
| b) "intact" or "impacted or degraded" fish habitat;  |             |             |
| c) "intact" or "impacted or degraded" water quality; or  |             |             |
| d) "intact" or "impacted or degraded" hydrologic control.  |             |             |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.        |             | $\boxtimes$ |
| Optional LSW criteria met?   |             | $\boxtimes$ |
| Determination: Wetland is locally significant  |             | 탄영화         |



**GENERAL INFORMATION** 

| Wetland Code: CL-A-02               |   |
|-------------------------------------|---|
| Wetland Class: <u>PEM, PSS, POW</u> | 7 |
| Method: 🖾 on-site 🔲 off-site        |   |

Field date: <u>3/1/07, 4/4/07</u> Investigators: <u>AS TB, RR</u> Observation point: <u>Data Plots</u>

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | а                   | с            | с             | a                  |             |
| 2             | b                   | а            | a             | a                  |             |
| 3             | b                   | b            | a             | Ъ                  |             |
| 4             | С                   | c            | в             | a                  |             |
| 5             | a                   | a            | c             | b                  |             |
| 6             | a                   | a            | a             | c                  |             |
| 7             | c                   |              |               | a                  |             |
| 8             | а                   |              |               |                    |             |
| 9             | а                   |              |               | 1                  |             |
| Descriptor    | some                | degraded     | degraded      | intact             | not approp. |

|             |  |             | <u>.</u>   |
|-------------|--|-------------|--|
| Exc         | clusions. Wetland is not locally significant if one of the following conditions applies:               | Yes         | No   |
| 1.          | Wetland is artificially created entirely from upland AND is either:                                    |             |  |
|             | a) created for the purpose of controlling, storing, or maintaining stormwater;                         |             |  |
|             | b) used for active surface mining or active log ponds;   |             |  |
|             | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |             |  |
|             | d) less than one acre in size and created unintentionally from irrigation or construction; or          |             |  |
|             | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,      |             |  |
|             | settling of sediment, cooling industrial water, or as a golf course hazard.                            |             |  |
| 2.          | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |             | $\boxtimes$  |
|             | Exclusion criteria met?  |             |  |
| LS          | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |  |
| 1.          | Wetland provides "diverse" wildlife habitat.   |             | $\boxtimes$  |
| 2.          | Wetland provides "intact" fish habitat.  |             | $\boxtimes$  |
| 3.          | Wetland provides "intact" water quality function.  |             | $\boxtimes$  |
| 4.          | Wetland provides "intact" hydrologic control function.   | $\boxtimes$ |  |
| 5.          | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the       | $\boxtimes$ |  |
|             | wetland's water quality function is described as "intact" or "impacted or degraded."                   |             | _  |
| 6.          | Wetland contains one or more rare plant communities.   |             | $\boxtimes$  |
| 7.          | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |             |  |
|             | sensitive, threatened or endangered.   |             |  |
| 8.          | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        | $\boxtimes$ |  |
|             | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |             |  |
|             | LSW criteria met?  | $\boxtimes$ |  |
| Op          | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |  |
| 1.          | Wetland represents a locally unique native plant community AND provides:                               |             | $\square$  |
|             | a) "diverse habitat" or "habitat for some wildlife species";   |             |  |
|             | b) "intact" or "impacted or degraded" fish habitat;  |             |  |
|             | c) "intact" or "impacted or degraded" water quality; or  |             |  |
|             | d) "intact" or "impacted or degraded" hydrologic control.  |             |  |
| 2.          | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |             | $\boxtimes$  |
|             | Optional LSW criteria met?   |             |  |
| De          | termination: Wetland is locally significant  |             |  |
| مستنب مسينك | ne sa  | <u></u>     | in a state of the second s |



GENERAL INFORMATION

| Wetland Code: CL-A-03        | Field date: No Access                    |
|------------------------------|--|
| Wetland Class: <u>PEM</u>    | Investigators: <u>NA</u>                 |
| Method: 🗌 on-site 🔀 off-site | <b>Observation point:</b> DSL File notes |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | b                   |              | а             | b                  |             |
| 2             | a                   |              | b             | b                  |             |
| 3             | c                   |              | b             | b                  | <u></u>     |
| 4             |                     |              | b             | b                  |             |
| 5             | Ъ                   |              | с             | а                  |             |
| 6             | b                   |              | a             | с                  |             |
| 7             | с                   |              |               | a                  |             |
| 8             | а                   |              |               |                    |             |
| 9             | a                   |              |               |                    |             |
| Descriptor    | some                | n/a          | degraded      | degraded           | not approp. |

|    | CALLY DIGITIPICATI THEILAND (LDW) DETERMINATION  |     |             |
|----|--|-----|-------------|
| Ex | clusions. Wetland is not locally significant if one of the following conditions applies:               | Yes | No          |
| 1. | Wetland is artificially created entirely from upland AND is either:                                    |     |             |
|    | a) created for the purpose of controlling, storing, or maintaining stormwater;                         |     |             |
|    | b) used for active surface mining or active log ponds;   |     |             |
|    | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |     |             |
|    | d) less than one acre in size and created unintentionally from irrigation or construction; or          |     |             |
|    | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,      |     |             |
|    | settling of sediment, cooling industrial water, or as a golf course hazard.                            |     |             |
| 2. | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |     |             |
|    | Exclusion criteria met?  |     | $\square$   |
|    | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |     |             |
| 1. | Wetland provides "diverse" wildlife habitat.   |     | $\boxtimes$ |
| 2. | Wetland provides "intact" fish habitat.  |     | $\boxtimes$ |
| 3. | Wetland provides "intact" water quality function.  |     |             |
| 4. | Wetland provides "intact" hydrologic control function.   |     | $\boxtimes$ |
| 5. | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the       |     | $\square$   |
|    | wetland's water quality function is described as "intact" or "impacted or degraded."                   |     |             |
| 6. | Wetland contains one or more rare plant communities.   |     |             |
| 7. | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |     | $\boxtimes$ |
| L  | sensitive, threatened or endangered.   |     |             |
| 8. | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        |     | $\square$   |
|    | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |     |             |
|    | LSW criteria met?  |     | $\square$   |
|    | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |     |             |
| 1. | Wetland represents a locally unique native plant community AND provides:                               |     | $\square$   |
|    | a) "diverse habitat" or "habitat for some wildlife species";   |     |             |
|    | b) "intact" or "impacted or degraded" fish habitat;  |     |             |
|    | c) "intact" or "impacted or degraded" water quality; or  |     |             |
|    | d) "intact" or "impacted or degraded" hydrologic control.  |     |             |
| 2. | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |     | $\boxtimes$ |
| L  | Optional LSW criteria met?   |     | $\boxtimes$ |
| De | termination: Wetland is not locally significant  |     |             |
|    |  |     |             |



**GENERAL INFORMATION** 

| Wetland Code: NO-A-01           |       |
|---------------------------------|-------|
| Wetland Class: <u>PFO, PSS,</u> | PEM   |
| Method: 🛛 on-site 🔲 off         | -site |

Field date: <u>3/9/07, 3/16/07, 5/31/07</u> Investigators: <u>AS, TB</u> Observation point: <u>Data Plots</u>

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | а                   | b            | c             | b                  |             |
| 2             | а                   | b            | a             | a                  |             |
| 3             | a                   | b            | a             | a                  |             |
| 4             |                     | a            | a             | c                  |             |
| 5             | a                   | b            | b             | a                  |             |
| 6             | a                   | с            | с             | a                  |             |
| 7             | а                   |              |               | a                  |             |
| 8             | b                   |              |               |                    |             |
| 9             | a                   |              |               |                    |             |
| Descriptor    | diverse             | degraded     | degraded      | intact             | not approp. |

| Exclusions. Wetland is not locally significant if one of the following conditions applies:       Yes       No         1. Wetland is antificially created entirely from upland AND is either:  |    |  |             | and the second second |
|---|----|--|-------------|-----------------------|
| 1. Wetland is artificially created entirely from upland AND is either:       a) created for the purpose of controlling, storing, or maintaining stormwater;       b) used for active surface mining or active log ponds;       c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one are in size and created unintentionally from irrigation or construction; or       c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acre in size and created unintentionally from irrigation or construction; or       c) a ditch without free and open connection to natural waters of the state and no food or game fish;         d) less than one acre in size and created unintentionally from irrigation or construction; or       c) a ditch without free and open connection to natural waters of the state and no food or game fish;         d) less than one acre in size and created unintentionally from irrigation or construction; or       c) a citeria         e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       C         LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       C         1. Wetland provides "intact" fish habitat.       C       C         3. Wetland provides "intact" hydrologic control function.       C       C         4. Wetland is inbacited by any spe  | Ex | clusions. Wetland is not locally significant if one of the following conditions applies:               | Yes         | No                    |
| b) used for active surface mining or active log ponds;       c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acte in size and created unintentionally from irrigation or construction; or       c) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.       Image: Comparison of the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Comparison of the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intext" fish habitat.       Image: Comparison of the purpose of wastewater treatment, cranberry producting criteria:         1. Wetland provides "intact" fish habitat.       Image: Comparison of the purpose of waster quality function.       Image: Comparison of the purpose of waster quality function.         4. Wetland provides "intact" hydrologic control function.       Image: Comparison of the purpose of the degral water body (303 (d) list) and the diston one or more rare plant communities.       Image: Comparison of the purpose of the degral waster and compared or degraded."         6. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Comparison one or more and plant community AND provides:       Image: Compa   |    | Wetland is artificially created entirely from upland AND is either:                                    |             |                       |
| b) used for active surface mining or active log ponds;       c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acte in size and created unintentionally from irrigation or construction; or       c) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.       Image: Comparison of the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Comparison of the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intext" fish habitat.       Image: Comparison of the purpose of wastewater treatment, cranberry producting criteria:         1. Wetland provides "intact" fish habitat.       Image: Comparison of the purpose of waster quality function.       Image: Comparison of the purpose of waster quality function.         4. Wetland provides "intact" hydrologic control function.       Image: Comparison of the purpose of the degral water body (303 (d) list) and the diston one or more rare plant communities.       Image: Comparison of the purpose of the degral waster and compared or degraded."         6. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Comparison one or more and plant community AND provides:       Image: Compa   |    | a) created for the purpose of controlling, storing, or maintaining stormwater;                         |             |                       |
| d) less than one acre in size and created unintentionally from irrigation or construction; or       e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Sediment, cooling industrial water, or as a golf course hazard.         1. Wetland provides "intext" is in habitat.       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intext" fish habitat.       Image: Sediment, cooling industrial water, or as a golf course hazard.         3. Wetland provides "intext" hydrologic control function.       Image: Sediment, cooling industrial water quality function is described as "intaxt" or "impacted or degraded."         6. Wetland contains one or more rare plant communities.       Image: Sediment, cooling industrial water or "impacted or degraded."         7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Sediment, cooling industrial water or "impacted or degraded" fish habitat function.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.         1. Wetland represe   |    | b) used for active surface mining or active log ponds;   | }           |                       |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Settlement of S                                    |    |  |             |                       |
| settling of sediment, cooling industrial water, or as a golf course hazard.       Image: Control of the coling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Control of the coling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Control of the coling industrial water, or as a golf course hazard.         LSW Criteria.       Wetland is locally significant if it meets one or more of the following criteria:       Image: Control of the coling industrial water, or as a golf course hazard.         3. Wetland provides "intact" fish habitat.       Image: Control of the coling industrial water quality function.       Image: Control of the coling industrial water quality function.         4. Wetland provides "intact" hydrologic control function.       Image: Control of the coling industrial water quality function is described as "intact" or "impacted or degraded."       Image: Control of the coling industrial water quality function is described as "intact" or "impacted or degraded" fish habitat function.         7. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Control of the coling is a coling is gonificant if it meets one or more of the following criteria:       Image: Control of the coling is control.         1. Wetland represents a locally unique native plant community AND provides:       Image: Control  |    | d) less than one acre in size and created unintentionally from irrigation or construction; or          |             |                       |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Start          |    | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,      |             |                       |
| Exclusion criteria met?       Image: Section of the following criteria:         1. Wetland provides "diverse" wildlife habitat.       Image: Section of the following criteria:         2. Wetland provides "intact" fish habitat.       Image: Section of the following criteria:         3. Wetland provides "intact" hydrologic control function.       Image: Section of the following criteria of the following criteria:         6. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Section of the following criteria of the following criteria of the following criteria of the following criteria of the following criteria:         8. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:   |    |  |             |                       |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Content of the following criteria:         1. Wetland provides "intact" fish habitat.       Image: Content of the following criteria:       Image: Content of the following criteria:         2. Wetland provides "intact" hydrologic control function.       Image: Content of the following criteria:       Image: Content of the following criteria:         3. Wetland provides "intact" hydrologic control function.       Image: Content of the following criteria:       Image: Content of the following criteria:         4. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Content of the following criteria:         6. Wetland contains one or more rare plant communities.       Image: Content of the following criteria:       Image: Content of the following criteria:         7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Content of the following criteria:         8. Wetland represents a locally significant if it meets one or more of the following criteria:       Image: Content of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:       Image: Content of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:       Image: Content of the following criteria:   | 2. | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |             | $\square$             |
| 1. Wetland provides "diverse" wildlife habitat.       Image: Control of the second secon          |    |  |             | $\boxtimes$           |
| 1. Wetland provides "diverse" wildlife habitat.       Image: Control of the second secon          | LS | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |                       |
| <ul> <li>3. Wetland provides "intact" water quality function.</li> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> </ul>  |    |  | $\square$   |                       |
| <ul> <li>3. Wetland provides "intact" water quality function.</li> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>Metland is publicly owned and has "educational uses" and such use is documented for that site.</li> </ul>   | 2. | Wetland provides "intact" fish habitat.  |             | $\boxtimes$           |
| <ul> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> </ul>   | 3. | Wetland provides "intact" water quality function.  |             |                       |
| <ul> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Cptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Qptional LSW criteria met?</li> </ul>  | 4. |  | $\square$   |                       |
| wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Contrains one or more rare plant communities.         6.       Wetland contains one or more rare plant communities.       Image: Contrains one or more rare plant communities.         7.       Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Contrains one or more rare plant communities.         8.       Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Contrains one or more of the following criteria         0       Detional LSW Criteria.       Wetland is locally significant if it meets one or more of the following criteria:         1.       Wetland represents a locally unique native plant community AND provides:       Image: Contrains on "impacted or degraded" fish habitat;         a) "diverse habitat" or "habitat for some wildlife species";       Image: Contrains on "impacted or degraded" fish habitat;       Image: Contrains on "impacted or degraded" mater quality; or dimater" or "impacted or degraded" mater quality; or dimater" or "impacted or degraded" hydrologic control.       Image: Contrains one contrains on "impacted for that site.       Image: Contrains one contrains on "impacted for that site.       Image: Contrains one contrains on "impacted for that site.       Image: Contrains on "Image: Contrains on "impacted for that site.       Image: Contrains one contrains contrains on "impacted for that site.  | 5. | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the       |             | X                     |
| <ul> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> </ul>   |    | wetland's water quality function is described as "intact" or "impacted or degraded."                   |             |                       |
| sensitive, threatened or endangered.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.         Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:         a) "diverse habitat" or "habitat for some wildlife species";         b) "intact" or "impacted or degraded" fish habitat;         c) "intact" or "impacted or degraded" fish habitat;         d) "intact" or "impacted or degraded" hydrologic control.         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.         Descriptional LSW criteria met?   | б. |  |             | $\boxtimes$           |
| sensitive, threatened or endangered.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.         Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:         a) "diverse habitat" or "habitat for some wildlife species";         b) "intact" or "impacted or degraded" fish habitat;         c) "intact" or "impacted or degraded" fish habitat;         d) "intact" or "impacted or degraded" hydrologic control.         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.         Descriptional LSW criteria met?   | 7. | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |             | $\boxtimes$           |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.          LSW criteria met?       Image: Complexity of the provides of the following criteria:         1.       Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> Image: Complexity of the provides of the prov  |    | sensitive, threatened or endangered.   |             |                       |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.          LSW criteria met?       Image: Complexity of the provides of the pr | 8. | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        |             | $\boxtimes$           |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Second Secon          |    | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |             |                       |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Second Secon          |    | LSW criteria met?  | $\boxtimes$ |                       |
| <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site. Optional LSW criteria met?  | Op | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |                       |
| <ul> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site. Optional LSW criteria met?  | 1. |  |             | $\square$             |
| <ul> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Optional LSW criteria met?</li> </ul>   |    | a) "diverse habitat" or "habitat for some wildlife species";   |             |                       |
| d) "intact" or "impacted or degraded" hydrologic control.         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.         Doptional LSW criteria met?   |    | b) "intact" or "impacted or degraded" fish habitat;  |             |                       |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.     Optional LSW criteria met?  |    |  |             |                       |
| Optional LSW criteria met?  |    |  |             |                       |
| Optional LSW criteria met?  | 2. | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |             | $\boxtimes$           |
| Determination: Wetland is locally significant   |    |  |             |                       |
|   | De | termination: Wetland is locally significant  |             | len de la             |



**GENERAL INFORMATION** 

|                                | ter de la companya d |
|--------------------------------|--|
| Wetland Code: NO-A-02          | Fie  |
| Wetland Class: <u>PFO, PEM</u> | In   |
| Method: 🗌 on-site 🛛 off-site   | Ot   |

Field date: <u>3/9/07</u> Investigators: <u>TB, RR</u> Observation point: <u>Hoffmeister Street</u>

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | а                   | b            | b             | ь                  |             |
| 2             | b                   | c            | a             | a                  | ,,,,,,,,,,  |
| 3             | с                   | b            | a             | a                  |             |
| 4             |                     | а            | a             | Ъ                  |             |
| 5             | a                   | а            | с             | a                  |             |
| 6             | a                   | с            | с             | a                  | ,           |
| 7             | a                   |              |               | a                  |             |
| 8             | а                   |              |               |                    |             |
| 9             | a                   |              |               |                    |             |
| Descriptor    | diverse             | degraded     | intact        | intact             | not approp. |

| Exclusions. Wetland is not locally significant if one of the following conditions applies:               | Yes       | No        |
|--|-----------|-----------|
| 1. Wetland is artificially created entirely from upland AND is either:                                   |           | $\square$ |
| a) created for the purpose of controlling, storing, or maintaining stormwater;                           |           |           |
| b) used for active surface mining or active log ponds;   |           |           |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;     |           |           |
| d) less than one acre in size and created unintentionally from irrigation or construction; or            |           |           |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,        |           |           |
| settling of sediment, cooling industrial water, or as a golf course hazard.                              |           |           |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  |           |           |
| Exclusion criteria met?  |           |           |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |           |           |
| 1. Wetland provides "diverse" wildlife habitat.  | $\square$ |           |
| 2. Wetland provides "intact" fish habitat.   |           |           |
| 3. Wetland provides "intact" water quality function.   | $\square$ |           |
| 4. Wetland provides "intact" hydrologic control function.  |           |           |
| 5. Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the      |           | $\square$ |
| wetland's water quality function is described as "intact" or "impacted or degraded."                     |           |           |
| 6. Wetland contains one or more rare plant communities.  |           | $\square$ |
| 7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as  |           |           |
| sensitive, threatened or endangered.   |           |           |
| 8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for       |           |           |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       |           |           |
| LSW criteria met?  | $\square$ |           |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |           |           |
| 1. Wetland represents a locally unique native plant community AND provides:                              |           | $\square$ |
| a) "diverse habitat" or "habitat for some wildlife species";   |           |           |
| b) "intact" or "impacted or degraded" fish habitat;  |           |           |
| c) "intact" or "impacted or degraded" water quality; or  |           |           |
| d) "intact" or "impacted or degraded" hydrologic control.  |           |           |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.        |           | $\square$ |
| Optional LSW criteria met?   |           | $\square$ |
| Determination: Wetland is locally significant  |           |           |



#### GENERAL INFORMATION

| Wetland Code: NO-A-03  |          |
|--|----------|
| Wetland Class: <u>PEM, POW, PI</u><br>Method: 🔀 on-site 🔲 off-site | <u>0</u> |
| Method: 🛛 on-site 🔲 off-site                                       |          |

Field date: <u>3/13/07, 5/16/07</u>

Investigators: <u>AS, TB, MB</u> Observation point: <u>Data Plots</u>

### FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | a                   | с            | a             | b                  |             |
| 2             | b                   | Ъ            | a             | a                  |             |
| 3             | b                   | с            | a             | a                  | ******      |
| 4             |                     | а            | а             | Ь                  |             |
| 5             | a                   | b            | b             | b                  |             |
| 6             | а                   | b            | с             | а                  |             |
| 7             | a                   |              | -             | a                  | ····        |
| 8             | b                   |              |               |                    |             |
| 9             | a                   |              |               |                    |             |
| Descriptor    | diverse             | degraded     | intact        | intact             | not approp. |

|     | ALL'I SIGNIFICANT WEILAND (LSW) DETERMINATION  |             | and the second second  |
|-----|--|-------------|------------------------|
| Exc | usions. Wetland is not locally significant if one of the following conditions applies:                 | Yes         | No                     |
| 1.  | Wetland is artificially created entirely from upland AND is either:                                    |             |                        |
|     | a) created for the purpose of controlling, storing, or maintaining stormwater;                         |             |                        |
|     | b) used for active surface mining or active log ponds;   |             |                        |
|     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |             |                        |
|     | d) less than one acre in size and created unintentionally from irrigation or construction; or          |             |                        |
|     | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,      |             |                        |
|     | settling of sediment, cooling industrial water, or as a golf course hazard.                            |             |                        |
| 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |             | $\boxtimes$            |
|     | Exclusion criteria met?  |             | $\boxtimes$            |
| LS  | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |                        |
| 1.  | Wetland provides "diverse" wildlife habitat.   | $\boxtimes$ |                        |
| 2.  | Wetland provides "intact" fish habitat.  |             | $\boxtimes$            |
| 3.  | Wetland provides "intact" water quality function.  | $\boxtimes$ |                        |
| 4.  | Wetland provides "intact" hydrologic control function.   | $\boxtimes$ |                        |
| 5.  | Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the         |             | $\overline{\boxtimes}$ |
|     | wetland's water quality function is described as "intact" or "impacted or degraded."                   |             |                        |
| 6.  | Wetland contains one or more rare plant communities.   |             | $\square$              |
| 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |             | $\boxtimes$            |
|     | sensitive, threatened or endangered.   |             |                        |
| 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        |             | $\square$              |
|     | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |             |                        |
|     | LSW criteria met?  |             |                        |
| Opt | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |                        |
| 1.  | Wetland represents a locally unique native plant community AND provides:                               |             | $\boxtimes$            |
|     | a) "diverse habitat" or "habitat for some wildlife species";   |             |                        |
|     | b) "intact" or "impacted or degraded" fish habitat;  |             |                        |
|     | c) "intact" or "impacted or degraded" water quality; or  |             |                        |
|     | d) "intact" or "impacted or degraded" hydrologic control.  |             |                        |
| 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |             | $\boxtimes$            |
|     | Optional LSW criteria met?   |             | $\overline{\boxtimes}$ |
| De  | termination: Wetland is locally significant  |             | ang ang s              |



GENERAL INFORMATION

| Wetland Code: NO-A-04        | Field date: <u>4/4/07</u>                |
|------------------------------|--|
| Wetland Class: <u>PFO</u>    | Investigators: <u>AS, TB</u>             |
| Method: 🗌 on-site 🔀 off-site | Observation point: Driveway off Hwy. 212 |

#### FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|----------------|---------------------|--------------|---------------|--------------------|-------------|
| 1              | а                   | a            | с             | b                  |             |
| 2              | а                   | ь            | a             | a                  |             |
| 3              | b                   | a            | a             | Ь                  |             |
| 4              |                     | a            | b             | в                  |             |
| 5              | a                   | с            | a             | a                  |             |
| 6              | a                   | с            | c             | a                  |             |
| 7              | a                   |              |               | a                  |             |
| 8              | с                   |              |               |                    |             |
| 9              | а                   |              |               |                    |             |
| Descriptor     | diverse             | degraded     | degraded      | intact             | not approp. |

| Exc | clusions. Wetland is not locally significant if one of the following conditions applies:               | Yes         | No          |
|-----|--|-------------|-------------|
| 1.  | Wetland is artificially created entirely from upland AND is either:                                    |             | $\square$   |
|     | a) created for the purpose of controlling, storing, or maintaining stormwater;                         |             |             |
|     | b) used for active surface mining or active log ponds;   |             |             |
|     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |             |             |
| }   | d) less than one acre in size and created unintentionally from irrigation or construction; or          |             | 1           |
|     | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,      |             | 1           |
|     | settling of sediment, cooling industrial water, or as a golf course hazard.                            |             |             |
| 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |             |             |
|     | Exclusion criteria met?  |             | $\square$   |
| LS  | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |             |
| 1.  | Wetland provides "diverse" wildlife habitat.   | $\boxtimes$ |             |
| 2.  | Wetland provides "intact" fish habitat.  |             |             |
| 3.  | Wetland provides "intact" water quality function.  |             | $\square$   |
| 4.  | Wetland provides "intact" hydrologic control function.   | $\boxtimes$ |             |
| 5.  | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the       |             |             |
|     | wetland's water quality function is described as "intact" or "impacted or degraded."                   |             |             |
| 6.  | Wetland contains one or more rare plant communities.   |             | X           |
| 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |             | $\boxtimes$ |
|     | sensitive, threatened or endangered.   |             |             |
| 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        |             | $\boxtimes$ |
|     | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |             |             |
|     | LSW criteria met?  | $\boxtimes$ |             |
| Opt | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |             |
| 1.  | Wetland represents a locally unique native plant community AND provides:                               | $\boxtimes$ |             |
|     | a) "diverse habitat" or "habitat for some wildlife species";   |             |             |
|     | b) "intact" or "impacted or degraded" fish habitat;  |             |             |
|     | c) "intact" or "impacted or degraded" water quality; or  |             | l           |
|     | d) "intact" or "impacted or degraded" hydrologic control.  |             | ĺ           |
| 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |             | $\boxtimes$ |
|     | Optional LSW criteria met?   | $\boxtimes$ |             |
| De  | termination: Wetland is locally significant  |             |             |
|     | · · · · · · · · · · · · · · · · · · ·  | 1           |             |



GENERAL INFORMATION

| Wetland Code: RI-A-O1        | Field date: <u>4/4/07</u>    |
|------------------------------|------------------------------|
| Wetland Class: <u>PEM</u>    | Investigators: <u>AS, TB</u> |
| Method: 🗌 on-site 🔀 off-site | Observation point: Tong Road |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality                         | Hydrologic Control | Education   |
|----------------|---------------------|--------------|---------------------------------------|--------------------|-------------|
| 1              | с                   |              | a                                     | Ь                  |             |
| 2              | b                   |              | a                                     | a                  |             |
| 3              | b                   |              | b                                     | b                  |             |
| 4              |                     |              | b                                     | b                  |             |
| 5              | b                   |              | b                                     | b                  |             |
| 6              | b                   |              | c                                     | c                  | ·····       |
| 7              | a                   |              | · · · · · · · · · · · · · · · · · · · | a                  |             |
| 8              | b                   |              |                                       |                    |             |
| 9              | b                   |              |                                       |                    |             |
| Descriptor     | some                | n/a          | degraded                              | degraded           | not approp. |

| Exclusions. Wetland is not locally significant if one of the following conditions applies:       Yes       No         1. Wetland is artificially created entirely from upland AND is either:       a) created for the purpose of controlling, storing, or maintaining stormwater;       b) used for active surface mining or active log ponds;       c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acre in size and created unintentionally from irrigation or construction; or       c)       e)         c) diets water or size and created unintentionally from irrigation or construction; or       c)       e)       exection or store in size and created unintentionally from irrigation or construction; or       c)         c) ecreated for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.       Z         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Z         LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria       Z         Wetland provides "intact" fish habitat.       Z       Z         Wetland provides "intact" hydrologic control function.       Z       Z         Wetland is inabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Z       Z         Wetland provides "intact" hydrologic control function.       Z   |     |  |         | 1. The second |
|--|-----|--|---------|---|
| a) created for the purpose of controlling, storing, or maintaining stormwater;       b) used for active surface mining or active log ponds;         c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acre in size and created unintentionally from irrigation or construction; or         e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water; or as a golf course hazard.       Image: Colored  | Exe | clusions. Wetland is not locally significant if one of the following conditions applies:               | Yes     | No  |
| b) used for active surface mining or active log ponds;       a ditch without free and open connection to natural waters of the state and no food or game fish;         d) less than one acre in size and created unintentionally from irrigation or construction; or       e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Contaminate is contaminated by hazardous substances, materials or wastes per 141-086.         I.SW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Contaminate is contaminated by hazardous substances, materials or wastes per 141-086.         V.Wetland provides "intact" fish habitat.       Image: Contaminate is contaminated by hazardous substances, materials or wastes per 141-086.         V.Wetland provides "intact" fish habitat.       Image: Contaminate is contaminated by hazardous substances, materials or wastes per 141-086.         Wetland provides "intact" hydrologic control function.       Image: Contaminate is contaminated by hazardous substances, materials or wastes per 141-086.         Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."         6. Wetland contains one or more rate plant communities.       Image: Contaminate is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.   | 1.  |  |         | $\square$   |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acre in size and created unintentionally from irrigation or construction; or         e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as golf course hazard.       Image: Course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Course hazard.         1. Wetland provides "intect" fish habitat.       Image: Course hazard.         2. Wetland provides "intact" fish habitat.       Image: Course hazard.         3. Wetland provides "intact" hydrologic control function.       Image: Course hazard.         4. Wetland provides "intact" hydrologic control function.       Image: Course hazard.         5. Wetland is less than ½ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Course hazard.         6. Wetland contains one or more rare plant communities.       Image: Course hazard course hazard course hazard course hazard.       Image: Course hazard course hazard course hazard.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous almonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Course hazard course.         1. Wetland represents a locally significant if it meets one or more of the following criteria:   |     | a) created for the purpose of controlling, storing, or maintaining stormwater;                         |         |   |
| d) less than one acre in size and created unintentionally from irrigation or construction; or       e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Contaminated by hazardous substances, materials or wastes per 141-086.         1. Wetland provides "diverse" wildlife habitat.       Image: Contaminated by hazardous substances, materials or wastes per 141-086.         2. Wetland provides "intact" fish habitat.       Image: Contaminated by hazardous substances, materials or wastes per 141-086.         3. Wetland provides "intact" water quality function.       Image: Contaminated by hazardous substances, materials or wastes per 141-086.         4. Wetland provides "intact" water quality function.       Image: Contaminated by hazardous substances, materials or wastes per 141-086.         5. Wetland provides "intact" hydrologic control function.       Image: Contaminated by any species listed as sensitive, threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Contaminated by any species listed federally as threatened or endangered, or state listed as sensitive, threateneed or endangered.       Image: Contaminate by any species listed federally as threateneed or degraded" fish habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Contaminate by any species listed federally as threateneed or endangered.       Image: Contendate by any species listed federally astore on ore or of the fol   |     | b) used for active surface mining or active log ponds;   |         |   |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.       Image: constraint of the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: constraint of the purpose of the following criteria         1. Wetland provides "diverse" wildlife habitat.       Image: constraint of the purpose of the following criteria:       Image: constraint of the purpose of the following criteria:         2. Wetland provides "intact" fish habitat.       Image: constraint of the purpose of the following criteria:       Image: constraint of the purpose of the purpose of the following criteria:         3. Wetland provides "intact" water quality function.       Image: constraint of the purpose of the purpose of the purpose of the purpose of the provides "intact" water quality function.       Image: constraint of the purpose of the p  |     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |         |   |
| settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Settlement of the settlement of t                           |     |  |         |   |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Substance is in the image: |     |  |         |   |
| Exclusion criteria met?       Image: Section of the following criteria:         1. Wetland provides "diverse" wildlife habitat.       Image: Section of the following criteria:         2. Wetland provides "intact" fish habitat.       Image: Section of the following criteria:         3. Wetland provides "intact" hydrologic control function.       Image: Section of the following criteria wetlend of the following criteria wetlend is less than ½ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Section of the following criteria         6. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Section of the following criteria         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Section of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:       Image: Section of the following criteria:         1. Wetland ro "impacted or degraded" ish habitat;       Image: Section of the following criteria:       Image: Section of the following criteria:       Image: Section of the following criteria:         2. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:       Image: Section of the following criteria:   |     |  |         |   |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: State S | 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |         |   |
| 1. Wetland provides "diverse" wildlife habitat.       Image: Control of the second secon |     | Exclusion criteria met?  |         | $\square$   |
| 2. Wetland provides "intact" fish habitat.         □         ⊠           3. Wetland provides "intact" water quality function.         □         ⊠           4. Wetland provides "intact" hydrologic control function.         □         ⊠           5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."         □         ⊠           6. Wetland contains one or more rare plant communities.         □         ⊠         ⊠           7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.         ⊠         ⊠           8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.         ⊠         ⊠           9. Wetland represents a locally unique native plant community AND provides:         □         ⊠         ⊠           1. Wetland represents a locally unique native plant community AND provides:         □         ⊠         ⊠           a) "diverse habitat" or "impacted or degraded" fish habitat;         □         ⊠         ⊠           2. "intact" or "impacted or degraded" fish habitat;         □         ⊠         ⊠           a) "diverse habitat" or "impacted or degraded" fish habitat;         □         ⊠         ≦  | LS  | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |         |   |
| 2. Wetland provides "intact" fish habitat.         □         ⊠           3. Wetland provides "intact" water quality function.         □         ⊠           4. Wetland provides "intact" hydrologic control function.         □         ⊠           5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."         □         ⊠           6. Wetland contains one or more rare plant communities.         □         ⊠         ⊠           7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.         ⊠         ⊠           8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.         ⊠         ⊠           9. Wetland represents a locally unique native plant community AND provides:         □         ⊠         ⊠           1. Wetland represents a locally unique native plant community AND provides:         □         ⊠         ⊠           a) "diverse habitat" or "impacted or degraded" fish habitat;         □         ⊠         ⊠           2. "intact" or "impacted or degraded" fish habitat;         □         ⊠         ⊠           a) "diverse habitat" or "impacted or degraded" fish habitat;         □         ⊠         ≦  | 1.  | Wetland provides "diverse" wildlife habitat.   |         | $\boxtimes$   |
| <ul> <li>3. Wetland provides "intact" water quality function.</li> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland ror "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" fish habitat; c) "intact" or "impacted or degraded" water quality; or d) "intact" or "impacted or degraded" hydrologic control.</li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> </ul>   | 2.  | Wetland provides "intact" fish habitat.  |         |   |
| wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Contrains one or more rare plant communities.         6.       Wetland contains one or more rare plant communities.       Image: Contrains one or more rare plant communities.       Image: Contrains one or more rare plant communities.         7.       Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Contrains one or more rare plant communities.       Image: Contrains one or more rare plant communities.         8.       Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Contrains one or more of the following criteria:         0       Deptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Contrains one wildlife species";         1.       Wetland represents a locally unique native plant community AND provides:       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" hydrologic control.       Image: Contrains on "mapacted or degraded" hydrologic control.         2.       Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Contrains on the plant contrains on "mapacted or degraded" hydrologic control.       Image  | 3.  | Wetland provides "intact" water quality function.  |         | $\square$   |
| wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Contrains one or more rare plant communities.         6.       Wetland contains one or more rare plant communities.       Image: Contrains one or more rare plant communities.       Image: Contrains one or more rare plant communities.         7.       Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Contrains one or more rare plant communities.       Image: Contrains one or more rare plant communities.         8.       Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Contrains one or more of the following criteria:         0       Deptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Contrains one wildlife species";         1.       Wetland represents a locally unique native plant community AND provides:       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" hydrologic control.       Image: Contrains on "mapacted or degraded" hydrologic control.         2.       Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Contrains on the plant contrains on "mapacted or degraded" hydrologic control.       Image  | 4.  | Wetland provides "intact" hydrologic control function.   |         | $\square$   |
| wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Contrains one or more rare plant communities.         6.       Wetland contains one or more rare plant communities.       Image: Contrains one or more rare plant communities.       Image: Contrains one or more rare plant communities.         7.       Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Contrains one or more rare plant communities.       Image: Contrains one or more rare plant communities.         8.       Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Contrains one or more of the following criteria:         0       Deptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Contrains one wildlife species";         1.       Wetland represents a locally unique native plant community AND provides:       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" fish habitat;       Image: Contrains on "mapacted or degraded" hydrologic control.       Image: Contrains on "mapacted or degraded" hydrologic control.         2.       Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Contrains on the plant contrains on "mapacted or degraded" hydrologic control.       Image  | 5.  | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the       |         |   |
| <ul> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>Metland is publicly owned and has "educational uses" and such use is documented for that site.</li> </ul>  |     | wetland's water quality function is described as "intact" or "impacted or degraded."                   |         |   |
| sensitive, threatened or endangered.       Image: Content of the sensitive is documented for that site.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Content of the sensitive is documented for that site.         0ptional LSW Criteria.       Wetland is locally significant if it meets one or more of the following criteria:       Image: Content of the sensitive is documented for that site.         1.       Wetland represents a locally unique native plant community AND provides:       Image: Content of the sensitive is documented for that site.       Image: Content of the sensitive is documented for that site.         2.       Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Content of the sensitive is documented for that site.  | 6.  |  |         |   |
| sensitive, threatened or endangered.       Image: Content of the sensitive is documented for that site.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Content of the sensitive is documented for that site.         0ptional LSW Criteria.       Wetland is locally significant if it meets one or more of the following criteria:       Image: Content of the sensitive is documented for that site.         1.       Wetland represents a locally unique native plant community AND provides:       Image: Content of the sensitive is documented for that site.       Image: Content of the sensitive is documented for that site.         2.       Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Content of the sensitive is documented for that site.  | 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |         |   |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.          LSW criteria met?       Image: Complexity of the following criteria:         0ptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Complexity of the following criteria:         1.       Wetland represents a locally unique native plant community AND provides:       Image: Complexity of the following criteria:         a) "diverse habitat" or "habitat for some wildlife species";       Image: Complexity of the following criteria       Image: Complexity of the following criteria         b) "intact" or "impacted or degraded" fish habitat;       Image: Complexity of the following criteria       Image: Complexity of the following criteria         2.       Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Complexity of the following criteria met?         Image: Complexity of the following criteria met?       Image: Complexity of the following criteria met?       Image: Complexity of the following criteria met?   |     |  |         |   |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.          LSW criteria met?       Image: Comptional LSW Criteria.         1.       Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> <li>Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>Metland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li>  | 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        |         |   |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: State Stat |     | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |         |   |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: State Stat |     | LSW criteria met?  |         |   |
| <ol> <li>Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Optional LSW criteria met?</li> </ol>  | Op  | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |         | Í   |
| b) "intact" or "impacted or degraded" fish habitat;  |     |  |         |   |
| b) "intact" or "impacted or degraded" fish habitat;  |     | a) "diverse habitat" or "habitat for some wildlife species";   |         |   |
| d) "intact" or "impacted or degraded" hydrologic control.         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.         Doptional LSW criteria met?  |     |  |         |   |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Comparison of the second s |     |  |         |   |
| Optional LSW criteria met?   |     | d) "intact" or "impacted or degraded" hydrologic control.  |         |   |
| Optional LSW criteria met?   | 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |         |   |
| Determination: Wetland is not locally significant  |     |  |         |   |
|  | De  | termination: Wetland is not locally significant  | 2944966 | 0600  |



GENERAL INFORMATION

| Wetland Code: RI-C-01        | Field date: <u>3/9/07, 3/21/07</u> |
|------------------------------|------------------------------------|
| Wetland Class: <u>PEM</u>    | Investigators: <u>AS, TB, RR</u>   |
| Method: 🗌 on-site 🖂 off-site | Observation point: Sunnyside Road  |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | с                   | c            | b             | Ъ                  |             |
| 2             | b                   | с            | a             | a                  |             |
| 3             | C                   | c            | а             | b                  |             |
| 4             |                     | a            | Ъ             | b                  |             |
| 5             | a                   | b            | Ъ             | b                  |             |
| 6             | a                   | с            | с             | a                  |             |
| 7             | a                   |              |               | a                  |             |
| 8             | b                   |              |               |                    |             |
| 9             | а                   |              |               |                    |             |
| Descriptor    | some                | degraded     | intact        | degraded           | not approp. |

| Exclusions. Wetland is not locally significant if one of the following conditions applies:                       | Yes       | No          |
|--|-----------|-------------|
| 1. Wetland is artificially created entirely from upland AND is either:   |           | $\square$   |
| a) created for the purpose of controlling, storing, or maintaining stormwater;                                   |           |             |
| b) used for active surface mining or active log ponds;   |           |             |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;             |           |             |
| d) less than one acre in size and created unintentionally from irrigation or construction; or                    |           |             |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,                |           |             |
| settling of sediment, cooling industrial water, or as a golf course hazard.                                      |           |             |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.          |           | $\boxtimes$ |
| Exclusion criteria met?  |           |             |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:                  |           |             |
| 1. Wetland provides "diverse" wildlife habitat.  |           |             |
| 2. Wetland provides "intact" fish habitat.   |           | $\square$   |
| 3. Wetland provides "intact" water quality function.   |           |             |
| 4. Wetland provides "intact" hydrologic control function.  |           |             |
| 5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the                |           |             |
| wetland's water quality function is described as "intact" or "impacted or degraded."                             |           |             |
| 6. Wetland contains one or more rare plant communities.  |           | $\square$   |
| 7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as          |           |             |
| sensitive, threatened or endangered.   |           |             |
| 8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for               | $\square$ |             |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.               |           |             |
| LSW criteria met?  | $\square$ |             |
| <b>Optional LSW Criteria</b> . Wetland is locally significant if it meets one or more of the following criteria: |           |             |
| 1. Wetland represents a locally unique native plant community AND provides:                                      |           |             |
| a) "diverse habitat" or "habitat for some wildlife species";   |           |             |
| b) "intact" or "impacted or degraded" fish habitat;  |           |             |
| c) "intact" or "impacted or degraded" water quality; or  |           |             |
| d) "intact" or "impacted or degraded" hydrologic control.  |           |             |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.                |           | $\square$   |
| Optional LSW criteria met?   |           | $\square$   |
| Determination: Wetland is locally significant  |           |             |



**GENERAL INFORMATION** 

| Wetland Code: RI-C-02          |  |
|--------------------------------|--|
| Wetland Class: <u>PEM, PSS</u> |  |
| Method: 🗌 on-site 🖾 off-site   |  |

Field date: <u>3/9/07, 3/21/07</u> Investigators: <u>AS, TB, RR</u> Observation point: <u>Highway 212</u>

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | а                   | a            | a             | b                  |             |
| 2             | b                   | b            | a             | a                  |             |
| 3             | b                   | b            | a             | b                  |             |
| 4             |                     | a            | b             | b                  |             |
| 5             | a                   | с            | a             | a                  |             |
| 6             | а                   | с            | c             | a                  |             |
| 7             | а                   |              |               | a                  |             |
| 8             | с                   |              |               |                    |             |
| 9             | a                   |              |               |                    |             |
| Descriptor    | diverse             | degraded     | intact        | intact             | not approp. |

| Ex | clusions. Wetland is not locally significant if one of the following conditions applies:  | Yes         | No          |
|----|---|-------------|-------------|
| 1. | Wetland is artificially created entirely from upland AND is either:   |             | $\square$   |
|    | a) created for the purpose of controlling, storing, or maintaining stormwater;  |             |             |
|    | b) used for active surface mining or active log ponds;  |             |             |
|    | c) a ditch without free and open connection to natural waters of the state and no food or game fish;                                      |             |             |
|    | d) less than one acre in size and created unintentionally from irrigation or construction; or   |             |             |
|    | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,   |             |             |
|    | settling of sediment, cooling industrial water, or as a golf course hazard.   |             |             |
| 2. | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.                                      |             | $\boxtimes$ |
|    | Exclusion criteria met?   |             | $\square$   |
| LS | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:   |             |             |
| 1. | Wetland provides "diverse" wildlife habitat.  | $\boxtimes$ |             |
| 2. | Wetland provides "intact" fish habitat.   |             | $\square$   |
| 3. | Wetland provides "intact" water quality function.   | $\boxtimes$ |             |
| 4. | Wetland provides "intact" hydrologic control function.  | $\boxtimes$ |             |
| 5. | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the  |             | $\square$   |
|    | wetland's water quality function is described as "intact" or "impacted or degraded."  |             | 5-7         |
| 6. | Wetland contains one or more rare plant communities.  | <u> </u>    |             |
| 7. | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered. |             | $\boxtimes$ |
| 8. | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for   | $\boxtimes$ |             |
|    | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.  |             |             |
|    | LSW criteria met?   | $\boxtimes$ |             |
| Op | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:                                    |             |             |
| 1. | Wetland represents a locally unique native plant community AND provides:  |             | $\boxtimes$ |
|    | a) "diverse habitat" or "habitat for some wildlife species";  |             |             |
|    | b) "intact" or "impacted or degraded" fish habitat;   |             |             |
|    | c) "intact" or "impacted or degraded" water quality; or   |             |             |
|    | d) "intact" or "impacted or degraded" hydrologic control.   |             |             |
| 2. | Wetland is publicly owned and has "educational uses" and such use is documented for that site.  |             | $\boxtimes$ |
|    | Optional LSW criteria met?  |             |             |



GENERAL INFORMATION

| Wetland Code: RI-D-01          | Field date: <u>3/21/07</u>                    |
|--------------------------------|---|
| Wetland Class: <u>PEM, PSS</u> | Investigators: <u>AS, TB</u>                  |
| Method: 🗌 on-site 🔀 off-site   | <b>Observation point:</b> <u>Alder Spring</u> |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | а                   | a            | a             | b                  |             |
| 2             | b                   | a            | a             | a                  |             |
| 3             | b                   | b            | a             | b                  |             |
| 4             |                     | a            | ь             | b                  |             |
| 5             | а                   | с            | a             | b                  |             |
| 6             | а                   | с            | с             | a                  |             |
| 7             | а                   |              |               | a                  |             |
| 8             | с                   |              |               |                    |             |
| 9             | а                   |              |               |                    |             |
| Descriptor    | diverse             | degraded     | intact        | degraded           | not approp. |

| Exclusions. Wetland is not locally significant if one of the following conditions applies:                                  | Yes         | No        |
|---|-------------|-----------|
| 1. Wetland is artificially created entirely from upland AND is either:  |             | $\square$ |
| a) created for the purpose of controlling, storing, or maintaining stormwater;  |             |           |
| b) used for active surface mining or active log ponds;  |             |           |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;                        |             |           |
| d) less than one acre in size and created unintentionally from irrigation or construction; or                               |             |           |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,                           |             |           |
| settling of sediment, cooling industrial water, or as a golf course hazard.   |             |           |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.                     |             |           |
| Exclusion criteria met?   |             | $\square$ |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:                             |             |           |
| 1. Wetland provides "diverse" wildlife habitat.   |             |           |
| 2. Wetland provides "intact" fish habitat.  |             |           |
| 3. Wetland provides "intact" water quality function.  | $\square$   |           |
| 4. Wetland provides "intact" hydrologic control function.   |             |           |
| 5. Wetland is less than <sup>1</sup> / <sub>4</sub> mile from a DEQ water quality limited water body (303 (d) list) and the |             |           |
| wetland's water quality function is described as "intact" or "impacted or degraded."  |             |           |
| 6. Wetland contains one or more rare plant communities.   |             |           |
| 7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as                     |             | $\square$ |
| sensitive, threatened or endangered.  |             |           |
| 8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for                          |             |           |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.                          |             |           |
| LSW criteria met?   | $\boxtimes$ |           |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:                    |             |           |
| 1. Wetland represents a locally unique native plant community AND provides:   |             |           |
| a) "diverse habitat" or "habitat for some wildlife species";  |             |           |
| b) "intact" or "impacted or degraded" fish habitat;   |             |           |
| c) "intact" or "impacted or degraded" water quality; or   |             |           |
| d) "intact" or "impacted or degraded" hydrologic control.   |             |           |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.                           |             | $\square$ |
| Optional LSW criteria met?  |             | $\square$ |
| Determination: Wetland is locally significant   |             |           |



**GENERAL INFORMATION** 

| Wetland Code: RI-I | <b>)-02</b> |
|--------------------|-------------|
| Wetland Class: PEM |             |
| Method: 🗌 on-site  | 🛛 off-site  |

Field date: <u>4/4/07</u> Investigators: <u>AS, TB</u> Observation point: <u>Lot 2400</u>

FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|----------------|---------------------|--------------|---------------|--------------------|-------------|
| 1              | a                   | а            | a             | b                  |             |
| 2              | a                   | b            | a             | a                  |             |
| 3              | а                   | b            | b             | b                  |             |
| 4              | · C                 | a            | b             | b                  |             |
| 5              | a                   | с            | a             | a                  |             |
| 6              | a                   | b            | с             | a                  |             |
| 7              | a                   |              |               | a                  |             |
| 8              | с                   |              |               |                    |             |
| 9              | а                   |              |               |                    |             |
| Descriptor     | some                | degraded     | degraded      | intact             | not approp. |

| Exclusions. Wetland is not locally significant if one of the following conditions applies:       Yes       No         1. Wetland is artificially created entirely from upland AND is either:       a) created for the purpose of controlling, storing, or maintaining stormwater;       b) used for active surface mining or active log ponds;       c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acre in size and created unintentionally from irrigation or construction; or       c)       c)         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       C       C         2. Wetland provides "diverse" wildlife habitat.       C       C       C         3. Wetland provides "intact" fish habitat.       C       C       C         4. Wetland provides "intact" hydrologic control function.       C       C       C         4. Wetland provides "intact" hydrologic control function.       C       C       C         5. Wetland provides "intact" hydrologic control function.       C       C       C         6. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       C       C         7. Wetland is inhabited by any species listed federally as threatened or degraded."       C       C       C         9. Wetland provides "intact" hydrologic control function.       C  |     | ( ) 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2  |             |             |
|--|-----|--|-------------|-------------|
| a) created for the purpose of controlling, storing, or maintaining stormwater;       b) used for active surface mining or active log ponds;         c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acre in size and created unintentionally from irrigation or construction; or         c) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.       Image: Coll of the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Coll of the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intact" significant if it meets one or more of the following criteria:       Image: Coll of the purpose of wastewater water quality function.         3. Wetland provides "intact" water quality function.       Image: Coll of the purpose of water quality function.       Image: Coll of the wetland's water quality function is described as "intact" or "impacted or degraded."         4. Wetland contains one or more rapel plat communities.       Image: Coll of the coll   | Exc |  | Yes         | No          |
| b) used for active surface mining or active log ponds;       c) a ditch without free and open connection to natural waters of the state and no food or game fish;         d) less than one acre in size and created unintentionally from irrigation or construction; or       c) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intect" water quality significant if it meets one or more of the following criteria:       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intact" hydrologic control function.       Image: Sediment, cooling industrial water, or as a golf course hazard.         3. Wetland provides "intact" hydrologic control function.       Image: Sediment, cooling industrial water, or as a golf course hazard.         4. Wetland provides "intact" hydrologic control function.       Image: Sediment, construction is described as "intact" or "impacted or degraded."         5. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Sediment, contention to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat, or "inpacted or degraded" fish habitat;       Image: Sediment, contaminater, or "impacted or degraded" fish habitat;         9. "Gutomal LS   | 1.  |  |             | $\boxtimes$ |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;       d) less than one acre in size and created unintentionally from irrigation or construction; or         e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.       Image: Course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Course hazard.         1. Wetland provides "diverse" wildlife habitat.       Image: Course hazard.         2. Wetland provides "intact" fish habitat.       Image: Course hazard.         3. Wetland provides "intact" hydrologic control function.       Image: Course hazard.         4. Wetland provides "intact" hydrologic control function.       Image: Course hazard.         5. Wetland si less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."       Image: Course hazard.         6. Wetland contains one or more rare plant communities.       Image: Course hazard course hazard course hazard course hazard.       Image: Course hazard course hazard.         7. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Course hazard course.         8. Wetland represents a locally unique native plant community AND provides:       Image: Course haz  |     | a) created for the purpose of controlling, storing, or maintaining stormwater;                         |             |             |
| d) less than one acre in size and created unintentionally from irrigation or construction; or       e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Sediment, cooling industrial water, or as a golf course hazard.         1. Wetland provides "intext" water quality significant if it meets one or more of the following criteria:       Image: Sediment, cooling industrial water, or as a golf course hazard.         2. Wetland provides "intext" high habitat.       Image: Sediment, cooling industrial water, or as a golf course hazard.       Image: Sediment, cooling industrial water, or as a golf course hazard.         3. Wetland provides "intext" high habitat.       Image: Sediment, cooling industrial water quality function.       Image: Sediment, cooling industrial water quality function.         4. Wetland is less than / mile from a DEQ water quality limited water body (303 (d) list) and the methad or endangered.       Image: Sediment, contaminated by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Sediment, contaminater, or "impacted or degraded" fish habitat for indigenous anahordus and has "intact" or "impacted or degraded" fish habitat function.         8. Wetland has a direct surface water connection to a st  |     | b) used for active surface mining or active log ponds;   |             |             |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering, setting of sediment, cooling industrial water, or as a golf course hazard.       Image: Course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard.       Image: Course hazard.       Image: Course hazard.         Image: Course hazard. <td< td=""><td></td><td></td><td></td><td></td></td<>   |     |  |             |             |
| settling of sediment, cooling industrial water, or as a golf course hazard.         2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.         Exclusion criteria met?         LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:         1. Wetland provides "diverse" wildlife habitat.         2. Wetland provides "intact" fish habitat.         3. Wetland provides "intact" water quality function.         4. Wetland provides "intact" hydrologic control function.         5. Wetland is less than /a mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."         6. Wetland contains one or more rare plant communities.         7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.         8. Wotland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.         1. Wetland represents a locally significant if it meets one or more of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:         a) "diverse habitat" or "habitat for some wildlife species";         b) "intact" or "impacted or degraded" fish habitat;         c) "intact" or "impacted or degraded" hydrologic control.         2. Wetland is   |     |  |             |             |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.       Image: Status of the |     |  |             |             |
| Exclusion criteria met?       Image: Section of the following criteria:         1. Wetland provides "diverse" wildlife habitat.       Image: Section of the following criteria:         2. Wetland provides "intact" fish habitat.       Image: Section of the following criteria:         3. Wetland provides "intact" hydrologic control function.       Image: Section of the following criteria of the following criteria:         3. Wetland provides "intact" hydrologic control function.       Image: Section of the following criteria of the following criteria:         6. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Section of the following criteria of the following criteria of the following criteria of the following criteria of the following criteria:       Image: Section of the following criteria:         8. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:       Image: Section of the following criteria:         1. Wetland represents a locally unique native plant community AND provides:       Image: Section of the following criteria:  |     |  |             |             |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       Image: Stress of the stress  | 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |             | $\boxtimes$ |
| 1. Wetland provides "diverse" wildlife habitat.       Image: Control of the provides "intact" fish habitat.         2. Wetland provides "intact" water quality function.       Image: Control function.         3. Wetland provides "intact" hydrologic control function.       Image: Control function.         4. Wetland provides "intact" hydrologic control function.       Image: Control function.         5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the metland's water quality function is described as "intact" or "impacted or degraded."       Image: Control function.         6. Wetland contains one or more rare plant communities.       Image: Control function.       Image: Control function.         7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.       Image: Control function.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Control function.         1. Wetland represents a locally unique native plant community AND provides:       Image: Control function or "impacted or degraded" fish habitat;       Image: Control function.         a) "diverse habitat" or "impacted or degraded" fish habitat;       Image: Control.       Image: Control.         2. Wetland represents a locally unique native plant community AND provides:       Image: Control.       Image: Control.         3   |     |  |             | $\boxtimes$ |
| <ul> <li>3. Wetland provides "intact" water quality function.</li> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous andromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: <ul> <li>a) "diverse habitat" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>Metland is publicly owned and has "educational uses" and such use is documented for that site.</li> </ul>  | LSV |  |             |             |
| <ul> <li>3. Wetland provides "intact" water quality function.</li> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: <ul> <li>a) "diverse habitat" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> <li>Metland is publicly owned and has "educational uses" and such use is documented for that site.</li> </ul>   | 1.  |  |             | $\boxtimes$ |
| <ul> <li>4. Wetland provides "intact" hydrologic control function.</li> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Coptional LSW criteria met?</li> </ul>  |     |  |             | $\boxtimes$ |
| <ul> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Cptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Qptional LSW criteria met?</li> </ul>   | 3.  |  |             | $\boxtimes$ |
| <ul> <li>5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."</li> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Cptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides: <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Qptional LSW criteria met?</li> </ul>   | 4.  | Wetland provides "intact" hydrologic control function.   | $\boxtimes$ |             |
| <ul> <li>6. Wetland contains one or more rare plant communities.</li> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Dytional LSW criteria met?</li> </ul>  | 5.  | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the       |             | $\boxtimes$ |
| <ul> <li>7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.</li> <li>8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.</li> <li>Coptional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:</li> <li>1. Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Dytional LSW criteria met?</li> </ul>  |     | wetland's water quality function is described as "intact" or "impacted or degraded."                   |             |             |
| sensitive, threatened or endangered.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.         LSW criteria met?       I         Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       I         1. Wetland represents a locally unique native plant community AND provides:       I         a) "diverse habitat" or "habitat for some wildlife species";       I         b) "intact" or "impacted or degraded" fish habitat;       I         c) "intact" or "impacted or degraded" water quality; or       I         d) "intact" or "impacted or degraded" hydrologic control.       I         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.       I         Optional LSW criteria met?       I  | 6.  |  |             | $\boxtimes$ |
| sensitive, threatened or endangered.       Image: Content of the sensitive is documented for that site.         8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       Image: Content of the sensitive is documented for that site.         0ptional LSW Criteria       Wetland is locally significant if it meets one or more of the following criteria:       Image: Content of the sensitive is documented for that site.         1. Wetland represents a locally unique native plant community AND provides:       Image: Content of the sensitive is documented for that site.       Image: Content of the sensitive is documented for that site.         a) "diverse habitat" or "impacted or degraded" fish habitat;       Image: Content of the sensitive is documented for that site.       Image: Content of the sensitive is documented for that site.         2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Content of the sensitive is documented for that site.       Image: Content of the sensitive is documented for that site.   | 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |             | $\boxtimes$ |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.          LSW criteria met?       I         Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:       I         1. Wetland represents a locally unique native plant community AND provides:       I         a) "diverse habitat" or "habitat for some wildlife species";       IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII   |     | sensitive, threatened or endangered.   |             |             |
| LSW criteria met?       Image: Content and the state is a locally significant if it meets one or more of the following criteria:         1.       Wetland represents a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a locally unique native plant community AND provides:       Image: Content and the state is a local plant community a lo  | 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        | $\boxtimes$ |             |
| Optional LSW Criteria.       Wetland is locally significant if it meets one or more of the following criteria:         1.       Wetland represents a locally unique native plant community AND provides:         a) "diverse habitat" or "habitat for some wildlife species";       b) "intact" or "impacted or degraded" fish habitat;         c) "intact" or "impacted or degraded" water quality; or       d) "intact" or "impacted or degraded" hydrologic control.         2.       Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Coptional LSW criteria met?   |     | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |             |             |
| <ol> <li>Wetland represents a locally unique native plant community AND provides:         <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> </li> <li>Wetland is publicly owned and has "educational uses" and such use is documented for that site.</li> <li>Optional LSW criteria met?</li> </ol>  |     | LSW criteria met?  | $\boxtimes$ |             |
| <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site. Optional LSW criteria met?   | Opt | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |             |
| <ul> <li>a) "diverse habitat" or "habitat for some wildlife species";</li> <li>b) "intact" or "impacted or degraded" fish habitat;</li> <li>c) "intact" or "impacted or degraded" water quality; or</li> <li>d) "intact" or "impacted or degraded" hydrologic control.</li> </ul> 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site. Optional LSW criteria met?   | 1.  | Wetland represents a locally unique native plant community AND provides:                               |             | $\boxtimes$ |
| c) "intact" or "impacted or degraded" water quality; or  |     | a) "diverse habitat" or "habitat for some wildlife species";   |             |             |
| d) "intact" or "impacted or degraded" hydrologic control.       Image: Control of the state of  |     |  |             |             |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.       Image: Comparison of the site  |     |  |             |             |
| Optional LSW criteria met?   |     |  |             |             |
|  | 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |             |             |
| Determination: Wetland is locally significant  | L   | Optional LSW criteria met?   |             | $\square$   |
|  | Det | termination: Wetland is locally significant  |             |             |



**GENERAL INFORMATION** 

| Wetland Code: RI-E01   |
|--|
| Wetland Class: <u>PMM, PSS</u>                                 |
| Wetland Class: <u>PMM, PSS</u><br>Method: 🛛 on-site 🗌 off-site |

Field date: <u>3/16/07</u> Investigators: <u>AS, TB</u>

**Observation point:** Data plots

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality                         | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------------------------------|--------------------|-------------|
| 1             | a                   | с            | а                                     | b                  |             |
| 2             | ¢                   | b            | a                                     | a                  |             |
| 3             | с                   | с            | a                                     | Ъ                  |             |
| 4             |                     | а            | b                                     | b                  |             |
| 5             | a                   | b            | b                                     | Ъ                  |             |
| 6             | a                   | с            | с                                     | a                  |             |
| 7             | a                   |              | -                                     | a                  |             |
| 8             | b                   |              | · · · · · · · · · · · · · · · · · · · |                    |             |
| 9             | b                   |              |                                       |                    |             |
| Descriptor    | some                | degraded     | intact                                | degraded           | not approp. |

| <b>Exclusions</b> . Wetland is not locally significant if one of the following conditions applies:       | Yes         | No          |
|--|-------------|-------------|
| 1. Wetland is artificially created entirely from upland AND is either:                                   |             | $\square$   |
| a) created for the purpose of controlling, storing, or maintaining stormwater;                           |             |             |
| b) used for active surface mining or active log ponds;   |             |             |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;     |             |             |
| d) less than one acre in size and created unintentionally from irrigation or construction; or            |             |             |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,        |             |             |
| settling of sediment, cooling industrial water, or as a golf course hazard.                              |             |             |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  |             |             |
| Exclusion criteria met?  |             | $\square$   |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |             |
| 1. Wetland provides "diverse" wildlife habitat.  |             |             |
| 2. Wetland provides "intact" fish habitat.   |             | $\square$   |
| 3. Wetland provides "intact" water quality function.   | $\boxtimes$ |             |
| 4. Wetland provides "intact" hydrologic control function.  |             |             |
| 5. Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the      |             | $\square$   |
| wetland's water quality function is described as "intact" or "impacted or degraded."                     |             |             |
| 6. Wetland contains one or more rare plant communities.  |             |             |
| 7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as  |             | $\square$   |
| sensitive, threatened or endangered.   |             |             |
| 8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for       | $\square$   |             |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       |             |             |
| LSW criteria met?  | $\boxtimes$ |             |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |             |
| 1. Wetland represents a locally unique native plant community AND provides:                              |             | $\boxtimes$ |
| a) "diverse habitat" or "habitat for some wildlife species";   |             |             |
| b) "intact" or "impacted or degraded" fish habitat;  |             |             |
| c) "intact" or "impacted or degraded" water quality; or  | i i         |             |
| d) "intact" or "impacted or degraded" hydrologic control.  |             |             |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.        |             | $\square$   |
| Optional LSW criteria met?   |             | $\square$   |
| Determination: Wetland is locally significant  |             | 1999        |



**GENERAL INFORMATION** 

| Wetland Code: RO-A-01        | Field date: <u>3/9/07</u>            |
|------------------------------|--------------------------------------|
| Wetland Class: <u>PEM</u>    | Investigators: TB, RR                |
| Method: 🛛 on-site 🔲 off-site | <b>Observation point:</b> Data plots |

FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education |
|----------------|---------------------|--------------|---------------|--------------------|-----------|
| 1              | b                   | a            | а             | Ъ                  |           |
| 2              | b                   | a            | a             | a                  |           |
| 3              | c                   | a            | a             | b                  |           |
| 4              | ,                   | a            | b             | c                  |           |
| 5              | a                   | с            | a             | b                  |           |
| 6              | a                   | c            | с             | a                  |           |
| 7              | а                   |              |               | a                  |           |
| 8              | с                   |              |               |                    |           |
| 9              | a                   |              |               |                    |           |
| Descriptor     | some                | degraded     | intact        | degraded           | potential |

|       | CALLY SIGNIFICANT WETLAND (LSW) DETERMINATION  |   |      |
|-------|--|---|------|
| Ex(   | lusions. Wetland is not locally significant if one of the following conditions applies:                                  | Yes   | No   |
| •     | Wetland is artificially created entirely from upland AND is either:  |   |      |
|       | a) created for the purpose of controlling, storing, or maintaining stormwater;   |   |      |
|       | b) used for active surface mining or active log ponds;   |   |      |
|       | c) a ditch without free and open connection to natural waters of the state and no food or game fish;                     |   |      |
|       | d) less than one acre in size and created unintentionally from irrigation or construction; or                            |   |      |
|       | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,                        |   |      |
|       | settling of sediment, cooling industrial water, or as a golf course hazard.  |   |      |
|       | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.                     |   |      |
|       | Exclusion criteria met?  |   |      |
| S     | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:                            |   |      |
|       | Wetland provides "diverse" wildlife habitat.   |   |      |
|       | Wetland provides "intact" fish habitat.  |   |      |
|       | Wetland provides "intact" water quality function.  |   | 一一一一 |
| -     | Wetland provides "intact" hydrologic control function.   | - F   |      |
|       | Wetland is less than <sup>1</sup> / <sub>4</sub> mile from a DEQ water quality limited water body (303 (d) list) and the | <u> </u>  |      |
|       | wetland's water quality function is described as "intact" or "impacted or degraded."                                     | tonud   |      |
|       | Wetland contains one or more rare plant communities.   |   |      |
|       | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as                     | $\overline{\square}$  |      |
|       | sensitive, threatened or endangered.   | human   |      |
|       | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for                          | <u> </u>  |      |
|       | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.                       | Lound   |      |
|       | LSW criteria met?  | Ø   |      |
| )pi   | ional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:                    |   |      |
|       | Wetland represents a locally unique native plant community AND provides:   | Π   |      |
|       | a) "diverse habitat" or "habitat for some wildlife species";   | <u> </u>  |      |
|       | b) "intact" or "impacted or degraded" fish habitat;  |   |      |
|       | c) "intact" or "impacted or degraded" water quality; or  |   |      |
|       | d) "intact" or "impacted or degraded" hydrologic control.  |   |      |
|       | Wetland is publicly owned and has "educational uses" and such use is documented for that site.                           | $\boxtimes$   | t m  |
|       | [technically, this criterion may not be met, but City believes it could be in future]                                    | ili ministrati na seconda de la constante de la |      |
| ••••• | Optional LSW criteria met?   |   |      |



**GENERAL INFORMATION** 

| GENERAL IN ON MATION           |        |
|--------------------------------|--------|
| Wetland Code: RO-A-02          | Field  |
| Wetland Class: <u>PFO, PEM</u> | Invest |
| Method: 🛛 on-site 🔲 off-site   | Obser  |

Field date: <u>3/9/07 4/4/07</u> Investigators: <u>AS, TB, RR</u> Observation point: <u>Data plots</u>

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|----------------|---------------------|--------------|---------------|--------------------|-------------|
| 1              | a                   | а            | с             | b                  |             |
| 2              | a                   | Ъ            | a             | a                  |             |
| 3              | Ь                   | b            | a             | b                  |             |
| 4              |                     | а            | Ъ             | a                  |             |
| 5              | a                   | с            | а             | a                  |             |
| 6              | a                   | b            | c             | a                  |             |
| 7              | a                   |              |               | a                  |             |
| 8              | с                   |              |               |                    |             |
| 9              | а                   |              |               |                    |             |
| Descriptor     | diverse             | degraded     | degraded      | intact             | not approp. |

| Loc | CALLY SIGNIFICANT WETLAND (LSW) DETERMINATION   |             |             |
|-----|---|-------------|-------------|
|     | clusions. Wetland is not locally significant if one of the following conditions applies:  | Yes         | No          |
| Ι.  | Wetland is artificially created entirely from upland AND is either:   |             | $\boxtimes$ |
|     | a) created for the purpose of controlling, storing, or maintaining stormwater;  |             |             |
|     | b) used for active surface mining or active log ponds;  |             |             |
|     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;                                      |             |             |
|     | d) less than one acre in size and created unintentionally from irrigation or construction; or   |             |             |
|     | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,   |             |             |
|     | settling of sediment, cooling industrial water, or as a golf course hazard.   |             |             |
| 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.                                      |             | $\boxtimes$ |
|     | Exclusion criteria met?   |             | $\boxtimes$ |
| LS  | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:   |             |             |
| 1.  | Wetland provides "diverse" wildlife habitat.  | $\square$   |             |
| 2.  | Wetland provides "intact" fish habitat.   |             | $\boxtimes$ |
| 3.  | Wetland provides "intact" water quality function.   |             | $\boxtimes$ |
| 4.  | Wetland provides "intact" hydrologic control function.  | $\square$   |             |
| 5.  | Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the  | $\square$   |             |
|     | wetland's water quality function is described as "intact" or "impacted or degraded."  |             |             |
| 6.  | Wetland contains one or more rare plant communities.  |             | X           |
| 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered. |             | $\boxtimes$ |
| 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for   |             | $\boxtimes$ |
| Į   | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.  |             |             |
|     | LSW criteria met?   | $\boxtimes$ |             |
| Opt | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:                                    |             |             |
| 1.  | Wetland represents a locally unique native plant community AND provides:  |             | $\square$   |
|     | a) "diverse habitat" or "habitat for some wildlife species";  |             |             |
|     | b) "intact" or "impacted or degraded" fish habitat;   |             |             |
|     | c) "intact" or "impacted or degraded" water quality; or   |             |             |
|     | d) "intact" or "impacted or degraded" hydrologic control.   |             |             |
| 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.  |             | $\boxtimes$ |
|     | Optional LSW criteria met?  |             | $\boxtimes$ |
| De  | termination: Wetland is locally significant   |             |             |



GENERAL INFORMATION

| Wetland Code: RO-A-03          | Field date: <u>4/4/07</u>            |
|--------------------------------|--------------------------------------|
| Wetland Class: <u>POW, PEM</u> | Investigators: <u>AS, TB</u>         |
| Method: 🖾 on-site 🔲 off-site   | <b>Observation point:</b> Data plots |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|----------------|---------------------|--------------|---------------|--------------------|-------------|
| 1              | А                   | с            | а             | b                  |             |
| 2              | b                   | b            | a             | a                  |             |
| 3              | b                   | Ь            | с             | b                  |             |
| 4              | b                   | a            | b             | b                  |             |
| 5              | а                   | с            | а             | b                  |             |
| 6              | a                   | b            | с             | a                  |             |
| 7              | a                   |              |               | a                  |             |
| 8              | с                   |              |               |                    |             |
| 9              | b                   |              |               |                    |             |
| Descriptor     | diverse             | degraded     | degraded      | degraded           | not approp. |

| Exe | clusions. Wetland is not locally significant if one of the following conditions applies:  | Yes       | No          |
|-----|---|-----------|-------------|
| 1.  | Wetland is artificially created entirely from upland AND is either:   |           |             |
|     | a) created for the purpose of controlling, storing, or maintaining stormwater;  |           |             |
|     | b) used for active surface mining or active log ponds;  |           |             |
|     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;                                      |           |             |
|     | d) less than one acre in size and created unintentionally from irrigation or construction; or   |           |             |
|     | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,   |           |             |
|     | settling of sediment, cooling industrial water, or as a golf course hazard.   |           |             |
| 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.                                      |           | $\boxtimes$ |
|     | Exclusion criteria met?   |           | $\boxtimes$ |
| LS  | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:   |           |             |
| 1.  | Wetland provides "diverse" wildlife habitat.  | $\square$ |             |
| 2   | Wetland provides "intact" fish habitat.   |           |             |
| ş.  | Wetland provides "intact" water quality function.   |           |             |
| ŧ.  | Wetland provides "intact" hydrologic control function.  |           |             |
| 5.  | Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the  |           | X           |
|     | wetland's water quality function is described as "intact" or "impacted or degraded."  | _         |             |
| 5.  | Wetland contains one or more rare plant communities.  |           | $\square$   |
| 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered. |           | X           |
| 3.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for   |           | X           |
|     | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.  | _         |             |
|     | LSW criteria met?   |           |             |
| Op  | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:                                    |           |             |
|     | Wetland represents a locally unique native plant community AND provides:  |           | X           |
|     | a) "diverse habitat" or "habitat for some wildlife species";  |           |             |
|     | b) "intact" or "impacted or degraded" fish habitat;   |           |             |
|     | c) "intact" or "impacted or degraded" water quality; or   |           |             |
|     | d) "intact" or "impacted or degraded" hydrologic control.   |           |             |
| 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.  |           | $\boxtimes$ |
|     | Optional LSW criteria met?  |           | X           |



GENERAL INFORMATION

| GENERAL INFORMATION          |   |
|------------------------------|---|
| Wetland Code: RO-B-01        | Field date: <u>3/21/07</u>                    |
| Wetland Class: <u>PFO</u>    | Investigators: <u>AS, TB</u>                  |
| Method: 🗌 on-site 🔀 off-site | <b>Observation point:</b> <u>Brent Street</u> |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | b                   | a            | a             | b                  |             |
| 2             | a                   | b            | a             | a                  |             |
| 3             | b                   | b            | a             | b                  |             |
| 4             |                     | a            | b             | b                  |             |
| 5             | a                   | b            | b             | a                  |             |
| 6             | a                   | с            | c             | b                  |             |
| 7             | a                   |              |               | a                  |             |
| 8             | b                   |              |               |                    |             |
| 9             | a                   |              |               |                    |             |
| Descriptor    | diverse             | degraded     | intact        | degraded           | not approp. |

| LA | clusions. Wetland is not locally significant if one of the following conditions applies:  | Yes         | No          |
|----|---|-------------|-------------|
| 1. | Wetland is artificially created entirely from upland AND is either:   |             |             |
|    | a) created for the purpose of controlling, storing, or maintaining stormwater;  |             |             |
|    | b) used for active surface mining or active log ponds;  |             |             |
|    | c) a ditch without free and open connection to natural waters of the state and no food or game fish;  |             |             |
|    | d) less than one acre in size and created unintentionally from irrigation or construction; or   |             |             |
|    | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,   |             |             |
|    | settling of sediment, cooling industrial water, or as a golf course hazard.   |             |             |
| 2. | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  |             |             |
|    | Exclusion criteria met?   |             | $\boxtimes$ |
| LS | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:   |             |             |
| 1. | Wetland provides "diverse" wildlife habitat.  | $\boxtimes$ |             |
| 2. | Wetland provides "intact" fish habitat.   |             | $\boxtimes$ |
| 3. | Wetland provides "intact" water quality function.   | $\boxtimes$ |             |
| 4. | Wetland provides "intact" hydrologic control function.  |             | $\boxtimes$ |
| 5. | Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded." |             |             |
| 6. | Wetland swatch quarty function is described as infact of impacted of degraded.  |             | $\boxtimes$ |
| 7. | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as  |             |             |
|    | sensitive, threatened or endangered.  | łł          |             |
| 8. | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for   |             | $\boxtimes$ |
|    | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.  |             |             |
|    | LSW criteria met?   | $\boxtimes$ |             |
| Op | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:  |             |             |
| 1. | Wetland represents a locally unique native plant community AND provides:  |             | $\square$   |
|    | a) "diverse habitat" or "habitat for some wildlife species";  |             |             |
|    | b) "intact" or "impacted or degraded" fish habitat;   |             |             |
|    | c) "intact" or "impacted or degraded" water quality; or   |             |             |
|    | d) "intact" or "impacted or degraded" hydrologic control.   |             |             |
| 2. | Wetland is publicly owned and has "educational uses" and such use is documented for that site.  |             | $\boxtimes$ |
|    | Optional LSW criteria met?  |             | X           |



# GENERAL INFORMATION

| Wetland | Code: | RO-I | <b>)-01</b> |  |
|---------|-------|------|-------------|--|
| Watland | Class | DEU  | DEM         |  |

Wetland Class: <u>PFO, PEM, POW</u> Method: 🖾 on-site 🗌 off-site Field date: <u>3/6/07</u> Investigators: <u>AS, TB, MB</u> Observation point: <u>Data plots</u>

FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | a                   | с            | с             | b                  |             |
| 2             | b                   | b            | a             | a                  |             |
| 3             | b                   | с            | a             | a                  |             |
| 4             | b                   | a            | a             | b                  |             |
| 5             | а                   | b            | b             | b                  |             |
| 6             | a                   | b            | с             | b                  |             |
| 7             | a                   |              |               | b                  |             |
| 8             | b                   |              |               |                    |             |
| 9             | а                   |              |               |                    |             |
| Descriptor    | diverse             | degraded     | degraded      | degraded           | not approp. |

| Exe | stusions. Wetland is not locally significant if one of the following conditions applies:  | Yes       | No          |
|-----|---|-----------|-------------|
| 1.  | Wetland is artificially created entirely from upland AND is either:   |           |             |
|     | a) created for the purpose of controlling, storing, or maintaining stormwater;  |           |             |
|     | b) used for active surface mining or active log ponds;  |           |             |
|     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;  |           |             |
|     | d) less than one acre in size and created unintentionally from irrigation or construction; or   |           |             |
|     | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,   |           |             |
|     | settling of sediment, cooling industrial water, or as a golf course hazard.   |           |             |
| 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  |           | $\boxtimes$ |
|     | Exclusion criteria met?   |           | $\square$   |
| LS  | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:   |           |             |
| 1.  | Wetland provides "diverse" wildlife habitat.  | $\square$ |             |
| 2.  | Wetland provides "intact" fish habitat.   |           | $\boxtimes$ |
| 3.  | Wetland provides "intact" water quality function.   |           | $\boxtimes$ |
| 4.  | Wetland provides "intact" hydrologic control function.  |           | $\boxtimes$ |
| 5.  | Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded." |           |             |
| 6.  | Wetland contains one or more rare plant communities.  |           | $\boxtimes$ |
| 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.   |           | $\boxtimes$ |
| 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for   |           | $\boxtimes$ |
|     | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.  | لسسة      |             |
|     | LSW criteria met?   |           |             |
| Op  | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:  |           |             |
| 1.  | Wetland represents a locally unique native plant community AND provides:  |           | $\boxtimes$ |
|     | a) "diverse habitat" or "habitat for some wildlife species";  |           |             |
|     | b) "intact" or "impacted or degraded" fish habitat;   |           |             |
|     | c) "intact" or "impacted or degraded" water quality; or   |           |             |
|     | d) "intact" or "impacted or degraded" hydrologic control.   |           |             |
| 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.  |           | $\boxtimes$ |
|     | Optional LSW criteria met?  |           | X           |



GENERAL INFORMATION

| Wetland Code: RO-D-02        | Field date: <u>3/6/07</u>                     |
|------------------------------|---|
| Wetland Class: <u>PEM</u>    | Investigators: <u>AS, MB</u>                  |
| Method: 🗌 on-site 🖂 off-site | <b>Observation point:</b> <u>Hemrick Road</u> |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|----------------|---------------------|--------------|---------------|--------------------|-------------|
| 1              | с                   | c            | a             | b                  |             |
| 2              | b                   | Ъ            | a             | a                  |             |
| 3              | c                   | с            | a             | b                  |             |
| 4              |                     | a            | b             | Ъ                  |             |
| 5              | a                   | b            | b             | Ъ                  |             |
| 6              | a                   | с            | c             | b                  |             |
| 7              | a                   |              |               | a                  |             |
| 8              | b                   |              |               |                    |             |
| 9              | a                   |              |               |                    |             |
| Descriptor     | some                | degraded     | intact        | degraded           | not approp. |

| Exclusions. Wetland is not locally significant if one of the following conditions applies:               | Yes | No          |
|--|-----|-------------|
| 1. Wetland is artificially created entirely from upland AND is either:                                   |     | $\square$   |
| a) created for the purpose of controlling, storing, or maintaining stormwater;                           |     |             |
| b) used for active surface mining or active log ponds;   |     |             |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;     |     |             |
| d) less than one acre in size and created unintentionally from irrigation or construction; or            |     |             |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,        |     |             |
| settling of sediment, cooling industrial water, or as a golf course hazard.                              |     |             |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  |     |             |
| Exclusion criteria met?  |     | $\square$   |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |     |             |
| 1. Wetland provides "diverse" wildlife habitat.  |     |             |
| 2. Wetland provides "intact" fish habitat.   |     | $\boxtimes$ |
| 3. Wetland provides "intact" water quality function.   |     |             |
| 4. Wetland provides "intact" hydrologic control function.  |     |             |
| 5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the        |     | $\square$   |
| wetland's water quality function is described as "intact" or "impacted or degraded."                     |     |             |
| 6. Wetland contains one or more rare plant communities.  |     |             |
| 7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as  |     | $\boxtimes$ |
| sensitive, threatened or endangered.   |     |             |
| 8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for       |     |             |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       |     |             |
| LSW criteria met?  |     |             |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |     |             |
| 1. Wetland represents a locally unique native plant community AND provides:                              |     | $\square$   |
| a) "diverse habitat" or "habitat for some wildlife species";   |     |             |
| b) "intact" or "impacted or degraded" fish habitat;  |     |             |
| c) "intact" or "impacted or degraded" water quality; or  |     |             |
| d) "intact" or "impacted or degraded" hydrologic control.  |     |             |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.        |     |             |
| Optional LSW criteria met?   |     | $\square$   |
| Determination: Wetland is locally significant  |     |             |

# Damascus Natural Features Inventory



Wetland Assessment Summary Sheet

GENERAL INFORMATION

| Wetland Code: RO-E-01        |
|------------------------------|
| Wetland Class: PFO, PEM, POW |
| Method: 🛛 on-site 🔲 off-site |

Field date: 3/16/07

Investigators: <u>AS, TB, RR, MB</u> **Observation point:** Data plots

FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | а                   | a            | с             | b                  |             |
| 2             | a                   | a            | a             | a                  |             |
| 3             | а                   | а            | a             | · a                |             |
| 4             | b                   | a            | a             | b                  |             |
| 5             | а                   | ь            | b             | a                  |             |
| 6             | a                   | a            | с             | a                  |             |
| 7             | a                   | -            |               | a                  |             |
| 8             | b                   |              |               |                    |             |
| 9             | a                   |              |               |                    |             |
| Descriptor    | diverse             | intact       | degraded      | intact             | not approp. |

| <b>Exclusions</b> . Wetland is not locally significant if one of the following conditions applies:   | Yes         | No        |
|--|-------------|-----------|
| 1. Wetland is artificially created entirely from upland AND is either:   |             |           |
| a) created for the purpose of controlling, storing, or maintaining stormwater;   | L           |           |
| b) used for active surface mining or active log ponds;   |             |           |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |             |           |
| d) less than one acre in size and created unintentionally from irrigation or construction; or  |             |           |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,  |             |           |
| settling of sediment, cooling industrial water, or as a golf course hazard.  |             |           |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  | Π           |           |
| Exclusion criteria met?  |             |           |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:  |             |           |
| 1. Wetland provides "diverse" wildlife habitat.  |             |           |
| 2. Wetland provides "intact" fish habitat.   | $\square$   |           |
| 3. Wetland provides "intact" water quality function.   |             | $\square$ |
| 4. Wetland provides "intact" hydrologic control function.  | $\square$   |           |
| 5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded." |             |           |
| 6. Wetland contains one or more rare plant communities.  |             |           |
| <ol> <li>Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as<br/>sensitive, threatened or endangered.</li> </ol>                      |             |           |
| 8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for   |             |           |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.   |             | _         |
| LSW criteria met?  | $\boxtimes$ |           |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:   |             |           |
| 1. Wetland represents a locally unique native plant community AND provides:  | $\square$   |           |
| a) "diverse habitat" or "habitat for some wildlife species";   |             | 1         |
| b) "intact" or "impacted or degraded" fish habitat;  |             |           |
| c) "intact" or "impacted or degraded" water quality; or  |             |           |
| d) "intact" or "impacted or degraded" hydrologic control.  |             | Į         |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.  |             | $\square$ |
| Optional LSW criteria met?   |             |           |
| Determination: Wetland is locally significant  |             |           |



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GENERAL INFORMATION

| Wetland Code: RO-F-01          | Field date: <u>3/16/07</u>        |
|--------------------------------|-----------------------------------|
| Wetland Class: <u>PFO, PEM</u> | Investigators: RR, MB             |
| Method: 🗌 on-site 🔀 off-site   | <b>Observation point:</b> Lot 800 |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|----------------|---------------------|--------------|---------------|--------------------|-------------|
| 1              | а                   | а            | A             | b                  |             |
| 2              | a                   | b            | в             | ь                  |             |
| 3              | b                   | Ь            | a             | b                  |             |
| 4              |                     | с            | b             | с                  |             |
| 5              | a                   | с            | a             | a                  |             |
| 6              | a                   | с            | a             | a                  |             |
| 7              | с                   |              |               | a                  |             |
| 8              | с                   |              |               |                    |             |
| 9              | а                   |              |               |                    |             |
| Descriptor     | some                | degraded     | degraded      | degraded           | not approp. |

| Loc | CALLY SIGNIFICANT WETLAND (LSW) DETERMINATION  | ÷ .         |             |
|-----|--|-------------|-------------|
| Exe | clusions. Wetland is not locally significant if one of the following conditions applies:               | Yes         | No          |
| 1.  | Wetland is artificially created entirely from upland AND is either:                                    |             |             |
|     | a) created for the purpose of controlling, storing, or maintaining stormwater;                         | —           |             |
|     | b) used for active surface mining or active log ponds;   |             |             |
|     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |             |             |
|     | d) less than one acre in size and created unintentionally from irrigation or construction; or          |             |             |
|     | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,      |             |             |
| ļ   | settling of sediment, cooling industrial water, or as a golf course hazard.                            |             |             |
| 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |             |             |
| ļ   | Exclusion criteria met?  |             | $\square$   |
| LS  | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |             |
| 1.  | Wetland provides "diverse" wildlife habitat.   |             | $\square$   |
| 2.  | Wetland provides "intact" fish habitat.  |             | $\square$   |
| 3.  | Wetland provides "intact" water quality function.  |             |             |
| 4.  | Wetland provides "intact" hydrologic control function.   |             |             |
| 5.  | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the       | $\boxtimes$ |             |
|     | wetland's water quality function is described as "intact" or "impacted or degraded."                   |             |             |
| б.  | Wetland contains one or more rare plant communities.   |             |             |
| 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |             | $\boxtimes$ |
|     | sensitive, threatened or endangered.   |             |             |
| 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        |             | $\square$   |
|     | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |             |             |
|     | LSW criteria met?  | $\boxtimes$ |             |
|     | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |             |
| 1.  | Wetland represents a locally unique native plant community AND provides:                               |             | $\square$   |
|     | a) "diverse habitat" or "habitat for some wildlife species";   |             |             |
|     | b) "intact" or "impacted or degraded" fish habitat;  |             |             |
|     | c) "intact" or "impacted or degraded" water quality; or  |             |             |
|     | d) "intact" or "impacted or degraded" hydrologic control.  |             |             |
| 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |             |             |
|     | Optional LSW criteria met?   |             |             |
| De  | termination: Wetland is locally significant  |             |             |



**GENERAL INFORMATION** 

| Wetland Code: RO-F-02          | Field date: <u>3/16/07</u>           |
|--------------------------------|--------------------------------------|
| Wetland Class: <u>PEM, PFO</u> | Investigators: <u>RR, MB</u>         |
| Method: 🖾 on-site 🔲 off-site   | <b>Observation point:</b> Data plots |

# FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|----------------|---------------------|--------------|---------------|--------------------|-------------|
| 1              | a                   | Ъ            | с             | Ь                  |             |
| 2              | a                   | b            | a             | a                  |             |
| 3              | b                   | b            | а             | b                  |             |
| 4              |                     | с            | b             | b                  |             |
| 5              | a                   | с            | a             | a                  |             |
| 6              | b                   | b            | a             | a                  |             |
| 7              | с                   |              |               | a                  |             |
| 8              | с                   |              |               |                    |             |
| 9              | a                   |              |               | 1                  |             |
| Descriptor     | some                | degraded     | degraded      | intact             | not approp. |

| Loc | ALLY SIGNIFICANT WETLAND (LSW) DETERMINATION   |             |             |
|-----|--|-------------|-------------|
| Exc | lusions. Wetland is not locally significant if one of the following conditions applies:  | Yes         | No          |
| 1.  | Wetland is artificially created entirely from upland AND is either:  |             |             |
|     | a) created for the purpose of controlling, storing, or maintaining stormwater;   |             |             |
|     | b) used for active surface mining or active log ponds;   |             |             |
|     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |             |             |
|     | d) less than one acre in size and created unintentionally from irrigation or construction; or  |             |             |
|     | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,  |             |             |
|     | settling of sediment, cooling industrial water, or as a golf course hazard.  |             |             |
| 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |             | $\square$   |
| l   | Exclusion criteria met?  |             | $\boxtimes$ |
|     | V Criteria. Wetland is locally significant if it meets one or more of the following criteria:  |             |             |
| 1.  | Wetland provides "diverse" wildlife habitat.   |             | $\square$   |
| 2.  | Wetland provides "intact" fish habitat.  |             |             |
| 3.  | Wetland provides "intact" water quality function.  |             | $\boxtimes$ |
| 4.  | Wetland provides "intact" hydrologic control function.   | $\boxtimes$ |             |
| 5.  | Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the   | $\boxtimes$ |             |
|     | wetland's water quality function is described as "intact" or "impacted or degraded."   |             |             |
| 6.  | Wetland contains one or more rare plant communities.   |             | X           |
| 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |             | $\boxtimes$ |
| 8.  | sensitive, threatened or endangered.   |             | 57          |
| 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function. | <b>[]</b>   | $\boxtimes$ |
|     | LSW criteria met?  | $\boxtimes$ |             |
| Opt | ional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:  |             |             |
| 1.  | Wetland represents a locally unique native plant community AND provides:   |             |             |
|     | a) "diverse habitat" or "habitat for some wildlife species";   |             |             |
|     | b) "intact" or "impacted or degraded" fish habitat;  |             |             |
|     | c) "intact" or "impacted or degraded" water quality; or  |             |             |
|     | d) "intact" or "impacted or degraded" hydrologic control.  |             |             |
| 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.   |             | $\boxtimes$ |
|     | Optional LSW criteria met?   |             |             |
| Det | ermination: Wetland is locally significant   |             |             |



GENERAL INFORMATION

| Wetland Code: SU-A-01          |  |
|--------------------------------|--|
| Wetland Class: <u>PEM, POW</u> |  |
| Method: 🗌 on-site 🖂 off-site   |  |

Field date: <u>3/4/07</u> Investigators: <u>TB, RR</u> Observation point: <u>Lot 800</u>

FUNCTION AND CONDITION ASSESSMENT ANSWERS

| <b>FWAM Question</b> | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|----------------------|---------------------|--------------|---------------|--------------------|-------------|
| 1                    | a                   | a            | a             | b                  |             |
| 2                    | b                   | a            | a             | a                  |             |
| 3                    | c                   | с            | a             | b                  | <u></u>     |
| 4                    | С                   | а            | b             | b                  |             |
| 5                    | a                   | b            | b             | b                  |             |
| 6                    | а                   | c            | a             | a                  |             |
| 7                    | a                   |              |               | b                  |             |
| 8                    | b                   |              |               |                    |             |
| 9                    | a                   |              |               |                    |             |
| Descriptor           | some                | degraded     | intact        | degraded           | not approp. |

| Exe | clusions. Wetland is not locally significant if one of the following conditions applies:               | Yes         | No        |
|-----|--|-------------|-----------|
| 1.  | Wetland is artificially created entirely from upland AND is either:                                    |             | $\square$ |
|     | a) created for the purpose of controlling, storing, or maintaining stormwater;                         |             |           |
|     | b) used for active surface mining or active log ponds;   |             |           |
|     | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |             |           |
|     | d) less than one acre in size and created unintentionally from irrigation or construction; or          |             |           |
|     | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,      |             |           |
|     | settling of sediment, cooling industrial water, or as a golf course hazard.                            |             |           |
| 2.  | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   |             |           |
|     | Exclusion criteria met?  |             | $\square$ |
| LS  | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |           |
| 1.  | Wetland provides "diverse" wildlife habitat.   |             |           |
| 2.  | Wetland provides "intact" fish habitat.  |             | $\square$ |
| 3.  | Wetland provides "intact" water quality function.  | $\square$   |           |
| 4.  | Wetland provides "intact" hydrologic control function.   |             |           |
| 5.  | Wetland is less than 1/4 mile from a DEQ water quality limited water body (303 (d) list) and the       |             | $\square$ |
|     | wetland's water quality function is described as "intact" or "impacted or degraded."                   |             |           |
| 6.  | Wetland contains one or more rare plant communities.   |             |           |
| 7.  | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as   |             |           |
|     | sensitive, threatened or endangered.   |             |           |
| 8.  | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for        |             |           |
|     | indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.     |             |           |
|     | LSW criteria met?  | $\boxtimes$ |           |
| Opt | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |           |
| 1.  | Wetland represents a locally unique native plant community AND provides:                               |             | $\square$ |
|     | a) "diverse habitat" or "habitat for some wildlife species";   |             |           |
|     | b) "intact" or "impacted or degraded" fish habitat;  |             |           |
|     | c) "intact" or "impacted or degraded" water quality; or  |             |           |
| ļ   | d) "intact" or "impacted or degraded" hydrologic control.  |             |           |
| 2.  | Wetland is publicly owned and has "educational uses" and such use is documented for that site.         |             |           |
| ļ   | Optional LSW criteria met?   |             | $\square$ |
| De  | termination: Wetland is locally significant  |             |           |



**GENERAL INFORMATION** 

| etland Code: SU-A-02  |         |
|-----------------------|---------|
| etland Class: PFO, PE | M       |
| ethod: 🛛 on-site 🔲 o  | ff-site |

Field date: <u>3/6/07</u> Investigators: <u>AS, MB</u> Observation point: <u>Data plots</u>

#### FUNCTION AND CONDITION ASSESSMENT ANSWERS

| OFWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education |
|----------------|---------------------|--------------|---------------|--------------------|-----------|
| 1              | а                   | с            | С             | b                  |           |
| 2              | b                   | с            | a             | a                  |           |
| 3              | с                   | с            | a             | a                  |           |
| 4              |                     | a            | a             | a                  |           |
| 5              | а                   | Ъ            | b             | Ъ                  |           |
| 6              | a                   | с            | a             | a                  |           |
| 7              | a                   |              |               | a                  |           |
| 8              | b                   |              | ·             |                    |           |
| 9              | b                   |              |               |                    |           |
| Descriptor     | diverse             | degraded     | degraded      | intact             | potential |

| <b>Exclusions</b> . Wetland is not locally significant if one of the following conditions applies:       | Yes         | No          |
|--|-------------|-------------|
| 1. Wetland is artificially created entirely from upland AND is either:                                   |             |             |
| a) created for the purpose of controlling, storing, or maintaining stormwater;                           |             |             |
| b) used for active surface mining or active log ponds;   |             |             |
| c) a ditch without free and open connection to natural waters of the state and no food or game fish;     |             |             |
| d) less than one acre in size and created unintentionally from irrigation or construction; or            |             |             |
| e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,        |             |             |
| settling of sediment, cooling industrial water, or as a golf course hazard.                              |             |             |
| 2. Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.  |             |             |
| Exclusion criteria met?  |             |             |
| LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:          |             |             |
| 1. Wetland provides "diverse" wildlife habitat.  | $\square$   |             |
| 2. Wetland provides "intact" fish habitat.   |             | $\boxtimes$ |
| 3. Wetland provides "intact" water quality function.   |             |             |
| 4. Wetland provides "intact" hydrologic control function.  | $\square$   |             |
| 5. Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the        |             |             |
| wetland's water quality function is described as "intact" or "impacted or degraded."                     |             |             |
| 6. Wetland contains one or more rare plant communities.  |             | $\square$   |
| 7. Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as  |             | $\boxtimes$ |
| sensitive, threatened or endangered.   | -           |             |
| 8. Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for       |             | $\boxtimes$ |
| indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function.       |             |             |
| LSW criteria met?  | $\square$   |             |
| Optional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria: |             |             |
| 1. Wetland represents a locally unique native plant community AND provides:                              | $\square$   |             |
| a) "diverse habitat" or "habitat for some wildlife species";   |             |             |
| b) "intact" or "impacted or degraded" fish habitat;  |             |             |
| c) "intact" or "impacted or degraded" water quality; or  |             |             |
| d) "intact" or "impacted or degraded" hydrologic control.  |             |             |
| 2. Wetland is publicly owned and has "educational uses" and such use is documented for that site.        | $\square$   |             |
| [technically, this criterion may not be met, but City believes it could be in future]                    |             |             |
| Optional LSW criteria met?   | $\boxtimes$ |             |
| Determination: Wetland is locally significant  |             |             |



GENERAL INFORMATION

이 그는 것이 아이는 것은 것이 같아요.

| Wetland Code: SU-A-03          |
|--------------------------------|
| Wetland Class: <u>PEM, PSS</u> |
| Method: 🛛 on-site 🗌 off-site   |

Field date: 2/22/07, 3/6/07 Investigators: AS, TB, RR, MB

Observation point: Data plots

FUNCTION AND CONDITION ASSESSMENT ANSWERS

| FWAM Question | Wildlife<br>Habitat | Fish Habitat | Water Quality | Hydrologic Control | Education   |
|---------------|---------------------|--------------|---------------|--------------------|-------------|
| 1             | a                   | b            | с             | b                  |             |
| 2             | b                   | a            | a             | a                  |             |
| 3             | · c                 | b            | a             | b                  |             |
| 4             |                     | a            | b             | b                  |             |
| 5             | a                   | c            | a             | b                  |             |
| 6             | a                   | b            | a             | с                  |             |
| 7             | а                   |              |               | a                  |             |
| 8             | с                   |              |               |                    |             |
| 9             | а                   |              |               |                    |             |
| Descriptor    | some                | degraded     | degraded      | degraded           | not approp. |

|    | CALLY SIGNIFICANT WETLAND (LSW) DETERMINATION  |          | ·<br>·      |
|----|--|----------|-------------|
|    | clusions. Wetland is not locally significant if one of the following conditions applies:   | Yes      | No          |
| 1. | Wetland is artificially created entirely from upland AND is either:  |          |             |
|    | a) created for the purpose of controlling, storing, or maintaining stormwater;   |          |             |
|    | b) used for active surface mining or active log ponds;   |          |             |
|    | c) a ditch without free and open connection to natural waters of the state and no food or game fish;   |          |             |
|    | d) less than one acre in size and created unintentionally from irrigation or construction; or  |          |             |
|    | e) created for the purpose of wastewater treatment, cranberry production, farm or stock watering,  |          |             |
|    | settling of sediment, cooling industrial water, or as a golf course hazard.  |          |             |
| 2. | Wetland or portion thereof is contaminated by hazardous substances, materials or wastes per 141-086.   | <u> </u> |             |
|    | Exclusion criteria met?  |          | $\square$   |
|    | W Criteria. Wetland is locally significant if it meets one or more of the following criteria:  |          |             |
| 1. | Wetland provides "diverse" wildlife habitat.   |          |             |
| 2. | Wetland provides "intact" fish habitat.  |          |             |
| 3. | Wetland provides "intact" water quality function.  |          | $\boxtimes$ |
| 4. | Wetland provides "intact" hydrologic control function.   |          | $\boxtimes$ |
| 5. | Wetland is less than ¼ mile from a DEQ water quality limited water body (303 (d) list) and the wetland's water quality function is described as "intact" or "impacted or degraded."                |          | $\boxtimes$ |
| 6. | Wetland contains one or more rare plant communities.   |          | $\boxtimes$ |
| 7. | Wetland is inhabited by any species listed federally as threatened or endangered, or state listed as sensitive, threatened or endangered.  |          |             |
| 8. | Wetland has a direct surface water connection to a stream segment mapped by ODFW as habitat for indigenous anadromous salmonids, and has "intact" or "impacted or degraded" fish habitat function. |          | $\boxtimes$ |
|    | LSW criteria met?  | Π        | $\boxtimes$ |
| Op | tional LSW Criteria. Wetland is locally significant if it meets one or more of the following criteria:   |          |             |
| 1. | Wetland represents a locally unique native plant community AND provides:   |          | $\boxtimes$ |
|    | a) "diverse habitat" or "habitat for some wildlife species";   | _        | _           |
|    | b) "intact" or "impacted or degraded" fish habitat;  |          |             |
|    | c) "intact" or "impacted or degraded" water quality; or  |          |             |
|    | d) "intact" or "impacted or degraded" hydrologic control.  |          |             |
| 2. | Wetland is publicly owned and has "educational uses" and such use is documented for that site.   |          | $\boxtimes$ |
|    | Optional LSW criteria met?   | Π        |             |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                           | Adjacent land is primarily developed uses        |
|                     | Less than 0.5 acre of open water                 | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | More than 75% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily developed uses    |
|                     | <10% of stream has instream structures           | No fish present in stream                        |
| Water Quality:      | In   | tact   |
|                     | Primary water source is precipitation            | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses    |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Agriculture upslope of wetland                   |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland          |
| Rationale:          | Dominated by woody vegetation                    | One or more Water Quality limited streams          |
|                     | High interspersion                               | Adjacent land is primarily open space              |
|                     | Less than 0.5 acre of open water                 | Wetland buffer is greater than 40%                 |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | In   | tact   |
|                     | More than 75% of stream is shaded                | One or more adjacent Water Quality limited streams |
| Rationale:          | Stream is in a natural channel                   | Adjacent land is primarily open space              |
|                     | >25% of stream has instream structures           | Salmon and/or trout present in stream              |
| Water Quality:      | In   | tact   |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected   |
| Rationale:          | Wetland floods or ponds                          | Adjacent land is primarily open space              |
|                     | High wetland vegetation cover                    | One or more adjacent Water Quality limited streams |
| Hydrologic Control: | Intact   |  |
|                     | Wetland is within 100 year floodplain            | Dominated by woody vegetation                      |
| Rationale:          | Wetland floods or ponds                          | Open space downslope of wetland                    |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                      |
|                     | Wetland has minor flow restrictions              |  |

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| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland          |
| Rationale:          | Dominated by emergent vegetation and ponding     | One or more Water Quality limited streams          |
|                     | Moderate interspersion                           | Adjacent land is primarily open space              |
|                     | Less than 0.5 acre of open water                 | Wetland buffer is greater than 40%                 |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted   | or degraded  |
|                     | Less than 50% of stream is shaded                | One or more adjacent Water Quality limited streams |
| Rationale:          | Stream is in a natural channel                   | Adjacent land is primarily open space              |
|                     | 10% to 25% of stream has instream structures     | Salmon and/or trout present in stream              |
| Water Quality:      | Impacted   | or degraded  |
|                     | Primary water source is groundwater              | Wetland is 0.5 to 5 acres, or <0.5 and connected   |
| Rationale:          | Wetland floods or ponds                          | Adjacent land is primarily open space              |
|                     | High wetland vegetation cover                    | One or more adjacent Water Quality limited streams |
| Hydrologic Control: | Intact   |  |
|                     | Wetland is within 100 year floodplain            | Dominated by emergent vegetation and ponding       |
| Rationale:          | Wetland floods or ponds                          | Open space downslope of wetland                    |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                      |
|                     | Wetland has restricted outlet                    |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | One Cowardin class with >5 species               | No surface connection, but wetlands w/in 3 miles   |
| Rationale:          | Dominated by woody vegetation                    | One or more Water Quality limited streams          |
|                     | Low interspersion                                | Adjacent land is primarily open space              |
|                     | N/A  | Wetland buffer is greater than 40%                 |
|                     | No surface connection, but waterbody w/in 1 mile |  |
| Fish Habitat:       | Not Ap   | plicable   |
|                     | N/A  | N/A  |
| Rationale:          | N/A  | N/A  |
|                     | N/A  | N/A  |
| Water Quality:      | Impacted   | or degraded  |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected   |
| Rationale:          | Can't determine if wetland floods or ponds       | Adjacent land is primarily open space              |
|                     | Moderate wetland vegetation cover                | One or more adjacent Water Quality limited streams |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by woody vegetation                      |
| Rationale:          | Can't determine if wetland floods or ponds       | Open space downslope of wetland                    |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                      |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides diverse habitat for wildlife        |  |
|---------------------|--|--|
|                     | More than one Cowardin class                 | Surface water connection to other wetland  |
| Rationale:          | Dominated by woody vegetation                | No adjacent Water Quality limited streams  |
|                     | High interspersion                           | Adjacent land is primarily agriculture     |
|                     | N/A  | Wetland buffer is greater than 40%         |
|                     | Surface water connection to water body       |  |
| Fish Habitat:       | Impacted o                                   | or degraded                                |
|                     | Between 50% and 75% of stream is shaded      | No adjacent Water Quality Limited streams  |
| Rationale:          | Only portions of stream are modified         | Adjacent land use is primarily agriculture |
|                     | 10% to 25% of stream has instream structures | No fish present in stream                  |
| Water Quality:      | Impacted or degraded                         |  |
|                     | Primary water source is groundwater          | Wetland is more than 5 acres               |
| Rationale:          | Wetland floods or ponds                      | Adjacent land use is primarily agriculture |
|                     | High wetland vegetation cover                | No adjacent Water Quality Limited streams  |
| Hydrologic Control: | Intact                                       |  |
|                     | Wetland is not within 100 year floodplain    | Dominated by woody vegetation              |
| Rationale:          | Wetland floods or ponds                      | Development downslope of wetland           |
|                     | Wetland is more than 5 acres                 | Urban uses upslope of wetland              |
|                     | Water has unrestricted flow out of wetland   |  |

| Wildlife Habitat:   | Provides diverse l                           | habitat for wildlife                      |
|---------------------|--|---|
|                     | More than one Cowardin class                 | Surface water connection to other wetland |
| Rationale:          | Dominated by emergent vegetation and ponding | No adjacent Water Quality limited streams |
|                     | Low interspersion                            | Adjacent land is primarily open space     |
|                     | N/A  | Wetland buffer is greater than 40%        |
|                     | Surface water connection to water body       |   |
| Fish Habitat:       | Impacted of                                  | or degraded                               |
|                     | Between 50% and 75% of stream is shaded      | No adjacent Water Quality Limited streams |
| Rationale:          | Stream banks are extensively modified        | Adjacent land is primarily open space     |
|                     | 10% to 25% of stream has instream structures | No fish present in stream                 |
| Water Quality:      | Int  | tact                                      |
|                     | Primary water source is precipitation        | Wetland is more than 5 acres              |
| Rationale:          | Wetland floods or ponds                      | Adjacent land is primarily open space     |
|                     | High wetland vegetation cover                | No adjacent Water Quality Limited streams |
| Hydrologic Control: | Intact                                       |   |
|                     | Wetland is not within 100 year floodplain    | Dominated by woody vegetation             |
| Rationale:          | Wetland floods or ponds                      | Development downslope of wetland          |
|                     | Wetland is more than 5 acres                 | Urban uses upslope of wetland             |
|                     | Wetland has minor flow restrictions          |   |

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| Wildlife Habitat:   | Provides diverse habitat for wildlife        |  |
|---------------------|--|--|
|                     | More than one Cowardin class                 | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation and ponding | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                       | Adjacent land is primarily agriculture           |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body       |  |
| Fish Habitat:       | Impacted of                                  | or degraded                                      |
|                     | Less than 50% of stream is shaded            | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified         | Adjacent land use is primarily agriculture       |
|                     | <10% of stream has instream structures       | Some non-salmonid fish species present in stream |
| Water Quality:      | In   | tact   |
|                     | Primary water source is surface flow         | Wetland is more than 5 acres                     |
| Rationale:          | Wetland floods or ponds                      | Adjacent land use is primarily agriculture       |
|                     | High wetland vegetation cover                | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Intact                                       |  |
|                     | Wetland is not within 100 year floodplain    | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                      | Development downslope of wetland                 |
|                     | Wetland is more than 5 acres                 | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions          |  |

| Wildlife Habitat:   | Provides diverse habitat for wildlife            |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by woody vegetation                    | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                           | Adjacent land is primarily developed uses        |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | More than 75% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily developed uses    |
|                     | >25% of stream has instream structures           | No fish present in stream                        |
| Water Quality:      | Impacted   | or degraded                                      |
|                     | Primary water source is groundwater              | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses    |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Intact   |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by woody vegetation                    |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | One Cowardin class with <5 species               | No surface connection, but wetlands w/in 3 miles |
| Rationale:          | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                           | Adjacent land is primarily agriculture           |
|                     | N/A  | Wetland buffer is between 10 and 40%             |
|                     | No surface connection, but waterbody w/in 1 mile |  |
| Fish Habitat:       | N  | /A   |
|                     | N/A  | N/A  |
| Rationale:          | N/A  | N/A  |
|                     | N/A  | N/A  |
| Water Quality:      | Impacted of                                      | or degraded                                      |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily agriculture       |
|                     | Moderate wetland vegetation cover                | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                          | Open space downslope of wetland                  |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

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| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | One Cowardin class with <5 species               | Surface water connection to other wetland        |
| <b>Rationale:</b>   | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams        |
|                     | Low interspersion                                | Adjacent land is primarily agriculture           |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | Less than 50% of stream is shaded                | No adjacent Water Quality Limited streams        |
| <b>Rationale:</b>   | Stream banks are extensively modified            | Adjacent land use is primarily agriculture       |
|                     | <10% of stream has instream structures           | No fish present in stream                        |
| Water Quality:      | Intact   |  |
|                     | Primary water source is precipitation            | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| <b>Rationale:</b>   | Wetland floods or ponds                          | Adjacent land use is primarily agriculture       |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

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| Wildlife Habitat:   | Provides diverse habitat for wildlife            |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                           | Adjacent land is primarily developed uses        |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | More than 75% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily developed uses    |
|                     | 10% to 25% of stream has instream structures     | No fish present in stream                        |
| Water Quality:      | Int  | tact   |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses    |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Intact   |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by woody vegetation                    |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

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| Wildlife Habitat:   | Provides diverse habitat for wildlife            |  |
|---------------------|--|--|
| •                   | More than one Cowardin class                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                           | Adjacent land is primarily developed uses        |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | More than 75% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Stream is in a natural channel                   | Adjacent land use is primarily developed uses    |
|                     | 10% to 25% of stream has instream structures     | No fish present in stream                        |
| Water Quality:      | In   | tact   |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses    |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by woody vegetation                    | No adjacent Water Quality limited streams        |
|                     | High interspersion                               | Adjacent land is primarily developed uses        |
|                     | Less than 0.5 acre of open water                 | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted   | or degraded                                      |
|                     | More than 75% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily developed uses    |
|                     | 10% to 25% of stream has instream structures     | Some non-salmonid fish species present in stream |
| Water Quality:      | Impacted   | or degraded                                      |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses    |
|                     | Moderate wetland vegetation cover                | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Intact   |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by woody vegetation                    |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

#### Damascus LWI

### OFWAM Functions and Conditions Summary Sheet Wetland Assessment Unit: RI-E-01

| Wildlife Habitat:   | Provides habitat for                             | some wildlife species                            |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation                 | No adjacent Water Quality limited streams        |
|                     | Low interspersion                                | Adjacent land is primarily agriculture           |
|                     | <u>N/A</u>                                       | Wetland buffer is between 10 and 40%             |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | Less than 50% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily agriculture       |
|                     | <10% of stream has instream structures           | No fish present in stream                        |
| Water Quality:      | Intact   |  |
| ÷                   | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily agriculture       |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species             |  |
|---------------------|--|--|
|                     | One Cowardin class with >5 species                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation and ponding           | No adjacent Water Quality limited streams        |
|                     | Low interspersion                                      | Adjacent land is primarily developed uses        |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body                 |  |
| Fish Habitat:       | Impacted of  | or degraded                                      |
|                     | More than 75% of stream is shaded                      | No adjacent Water Quality Limited streams        |
| Rationale:          | Stream is in a natural channel                         | Adjacent land use is primarily developed uses    |
|                     | >25% of stream has instream structures                 | No fish present in stream                        |
| Water Quality:      | Intact   |  |
|                     | Primary water source is surface flow                   | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                                | Adjacent land use is primarily developed uses    |
|                     | High wetland vegetation cover                          | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted   | or degraded                                      |
|                     | Wetland is not within 100 year floodplain              | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                                | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected       | Urban uses upslope of wetland                    |
|                     | Water has unrestricted flow out of wetland             |  |
| Education:          | Potential for education uses                           |  |
|                     | Wetland is open to the public                          | Public access to other habitats exist            |
| Rationale:          | One or two visible hazards to public                   | No access point to wetland exists                |
|                     | No intact fish or wildlife, but both functions not los | Wetland is not limited mobility accessible       |

#### **Damascus LWI**

#### **OFWAM Functions and Conditions Summary Sheet**

#### Wetland Assessment Unit: RO-A-02

| Wildlife Habitat:   | Provides diverse habitat for wildlife            |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by woody vegetation                    | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                           | Adjacent land is primarily developed uses        |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | More than 75% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily developed uses    |
|                     | 10% to 25% of stream has instream structures     | Some non-salmonid fish species present in stream |
| Water Quality:      | Impacted e                                       | or degraded                                      |
|                     | Primary water source is groundwater              | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses    |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Intact   |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by woody vegetation                    |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has restricted outlet                    |  |

| Wildlife Habitat:   | Provides diverse habitat for wildlife            |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                           | Adjacent land is primarily developed uses        |
|                     | Between 0.5 and 1 acre of open water             | Wetland buffer is between 10 and 40%             |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | Less than 50% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily developed uses    |
|                     | 10% to 25% of stream has instream structures     | Some non-salmonid fish species present in stream |
| Water Quality:      | Impacted   | or degraded                                      |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses    |
|                     | Low wetland vegetation cover                     | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides diverse habitat for wildlife            |  |
|---------------------|--|--|
|                     | One Cowardin class with >5 species               | Surface water connection to other wetland        |
| Rationale:          | Dominated by woody vegetation                    | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                           | Adjacent land is primarily agriculture           |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | More than 75% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily agriculture       |
|                     | 10% to 25% of stream has instream structures     | No fish present in stream                        |
| Water Quality:      | Int  | tact   |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily agriculture       |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted of                                      | or degraded                                      |
|                     | Wetland is not within 100 year floodplain        | Dominated by woody vegetation                    |
| Rationale:          | Wetland floods or ponds                          | Agriculture downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides diverse habitat for wildlife        |  |
|---------------------|--|--|
|                     | More than one Cowardin class                 | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation and ponding | No adjacent Water Quality limited streams        |
|                     | Moderate interspersion                       | Adjacent land is primarily agriculture           |
|                     | Between 0.5 and 1 acre of open water         | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body       |  |
| Fish Habitat:       | Impacted of                                  | or degraded                                      |
|                     | Less than 50% of stream is shaded            | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified         | Adjacent land use is primarily agriculture       |
|                     | <10% of stream has instream structures       | Some non-salmonid fish species present in stream |
| Water Quality:      | Impacted of                                  | or degraded                                      |
|                     | Primary water source is groundwater          | Wetland is more than 5 acres                     |
| Rationale:          | Wetland floods or ponds                      | Adjacent land use is primarily agriculture       |
|                     | High wetland vegetation cover                | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted or degraded                         |  |
|                     | Wetland is not within 100 year floodplain    | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                      | Agriculture downslope of wetland                 |
|                     | Wetland is more than 5 acres                 | Agriculture upslope of wetland                   |
|                     | Wetland has minor flow restrictions          |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | One Cowardin class with <5 species               | Surface water connection to other wetland        |
| Rationale:          | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams        |
|                     | Low interspersion                                | Adjacent land is primarily agriculture           |
|                     | N/A  | Wetland buffer is greater than 40%               |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted of                                      | or degraded                                      |
|                     | Less than 50% of stream is shaded                | No adjacent Water Quality Limited streams        |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily agriculture       |
|                     | <10% of stream has instream structures           | No fish present in stream                        |
| Water Quality:      | In   | tact   |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily agriculture       |
|                     | High wetland vegetation cover                    | No adjacent Water Quality Limited streams        |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding     |
| Rationale:          | Wetland floods or ponds                          | Agriculture downslope of wetland                 |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                    |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides diverse habitat for wildlife     |  |
|---------------------|---|--|
|                     | More than one Cowardin class              | Surface water connection to other wetland  |
| Rationale:          | Dominated by woody vegetation             | No adjacent Water Quality limited streams  |
|                     | High interspersion                        | Adjacent land is primarily agriculture     |
|                     | Between 0.5 and 1 acre of open water      | Wetland buffer is greater than 40%         |
|                     | Surface water connection to water body    |  |
| Fish Habitat:       | In  | tact                                       |
|                     | More than 75% of stream is shaded         | No adjacent Water Quality Limited streams  |
| Rationale:          | Stream is in a natural channel            | Adjacent land use is primarily agriculture |
|                     | >25% of stream has instream structures    | Salmon and/or trout present in stream      |
| Water Quality:      | Impacted                                  | or degraded                                |
|                     | Primary water source is groundwater       | Wetland is more than 5 acres               |
| Rationale:          | Wetland floods or ponds                   | Adjacent land use is primarily agriculture |
|                     | High wetland vegetation cover             | No adjacent Water Quality Limited streams  |
| Hydrologic Control: | Intact                                    |  |
|                     | Wetland is not within 100 year floodplain | Dominated by woody vegetation              |
| Rationale:          | Wetland floods or ponds                   | Development downslope of wetland           |
|                     | Wetland is more than 5 acres              | Urban uses upslope of wetland              |
|                     | Wetland has minor flow restrictions       |  |

#### Damascus LWI

#### **OFWAM Functions and Conditions Summary Sheet**

#### Wetland Assessment Unit: RO-F-01

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland          |
| Rationale:          | Dominated by woody vegetation                    | One or more Water Quality limited streams          |
|                     | Moderate interspersion                           | Adjacent land is primarily developed uses          |
|                     | N/A  | Wetland buffer is greater than 40%                 |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted   | or degraded  |
|                     | More than 75% of stream is shaded                | One or more adjacent Water Quality limited streams |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily developed uses      |
|                     | 10% to 25% of stream has instream structures     | No fish present in stream                          |
| Water Quality:      | Impacted   | or degraded  |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected   |
| Rationale:          | Can't determine if wetland floods or ponds       | Adjacent land use is primarily developed uses      |
|                     | High wetland vegetation cover                    | One or more adjacent Water Quality limited streams |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by woody vegetation                      |
| Rationale:          | Can't determine if wetland floods or ponds       | Development downslope of wetland                   |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                      |
|                     | Water has unrestricted flow out of wetland       |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | No surface connection, but wetlands w/in 3 miles   |
| Rationale:          | Dominated by woody vegetation                    | One or more Water Quality limited streams          |
|                     | Moderate interspersion                           | Adjacent land is primarily developed uses          |
|                     | N/A  | Wetland buffer is greater than 40%                 |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted   | or degraded  |
|                     | Between 50% and 75% of stream is shaded          | One or more adjacent Water Quality limited streams |
| Rationale:          | Only portions of stream are modified             | Adjacent land use is primarily developed uses      |
|                     | 10% to 25% of stream has instream structures     | Some non-salmonid fish species present in stream   |
| Water Quality:      | Impacted   | or degraded  |
|                     | Primary water source is groundwater              | Wetland is 0.5 to 5 acres, or <0.5 and connected   |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses      |
|                     | High wetland vegetation cover                    | One or more adjacent Water Quality limited streams |
| Hydrologic Control: | Intact   |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by woody vegetation                      |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                   |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                      |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |
|---------------------|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland          |
| Rationale:          | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams          |
|                     | Low interspersion                                | Adjacent land is primarily agriculture             |
|                     | Less than 0.5 acre of open water                 | Wetland buffer is greater than 40%                 |
|                     | Surface water connection to water body           |  |
| Fish Habitat:       | Impacted   | or degraded  |
|                     | More than 75% of stream is shaded                | No adjacent Water Quality Limited streams          |
| Rationale:          | Stream is in a natural channel                   | Adjacent land use is primarily agriculture         |
|                     | <10% of stream has instream structures           | No fish present in stream                          |
| Water Quality:      | In   | tact   |
|                     | Primary water source is surface flow             | Wetland is 0.5 to 5 acres, or <0.5 and connected   |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily agriculture         |
|                     | High wetland vegetation cover                    | One or more adjacent Water Quality limited streams |
| Hydrologic Control: | Impacted or degraded                             |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding       |
| Rationale:          | Wetland floods or ponds                          | Development downslope of wetland                   |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Agriculture upslope of wetland                     |
|                     | Wetland has minor flow restrictions              |  |

| Wildlife Habitat:   | Provides diverse habitat for wildlife                  |  |  |  |  |  |
|---------------------|--|--|--|--|--|--|
|                     | More than one Cowardin class                           | Surface water connection to other wetland          |  |  |  |  |
| Rationale:          | Dominated by emergent vegetation and ponding           | No adjacent Water Quality limited streams          |  |  |  |  |
|                     | Low interspersion                                      | Adjacent land is primarily agriculture             |  |  |  |  |
|                     | N/A  | Wetland buffer is between 10 and 40%               |  |  |  |  |
|                     | Surface water connection to water body                 |  |  |  |  |  |
| Fish Habitat:       | Impacted   | or degraded  |  |  |  |  |
|                     | Less than 50% of stream is shaded                      | No adjacent Water Quality Limited streams          |  |  |  |  |
| <b>Rationale:</b>   | Stream banks are extensively modified                  | Adjacent land use is primarily agriculture         |  |  |  |  |
|                     | <10% of stream has instream structures                 | No fish present in stream                          |  |  |  |  |
| Water Quality:      | Impacted   | or degraded  |  |  |  |  |
|                     | Primary water source is groundwater                    | Wetland is more than 5 acres                       |  |  |  |  |
| Rationale:          | Wetland floods or ponds                                | Adjacent land use is primarily agriculture         |  |  |  |  |
|                     | High wetland vegetation cover                          | One or more adjacent Water Quality limited streams |  |  |  |  |
| Hydrologic Control: | Intact   |  |  |  |  |  |
|                     | Wetland is not within 100 year floodplain              | Dominated by emergent vegetation and ponding       |  |  |  |  |
| Rationale:          | Wetland floods or ponds                                | Development downslope of wetland                   |  |  |  |  |
|                     | Wetland is more than 5 acres                           | Urban uses upslope of wetland                      |  |  |  |  |
|                     | Wetland has restricted outlet                          |  |  |  |  |  |
| Education:          | Potential for  | education uses                                     |  |  |  |  |
|                     | Access allowed by permission only                      | Other habitats can be observed not accessed        |  |  |  |  |
| Rationale:          | One or two visible hazards to public                   | No access point to wetland exists                  |  |  |  |  |
|                     | No intact fish or wildlife, but both functions not los | Wetland is not limited mobility accessible         |  |  |  |  |

| Wildlife Habitat:   | Provides habitat for some wildlife species       |  |  |  |  |  |
|---------------------|--|--|--|--|--|--|
|                     | More than one Cowardin class                     | Surface water connection to other wetland          |  |  |  |  |
| Rationale:          | Dominated by emergent vegetation and ponding     | No adjacent Water Quality limited streams          |  |  |  |  |
|                     | Low interspersion                                | Adjacent land is primarily developed uses          |  |  |  |  |
|                     | N/A  | Wetland buffer is greater than 40%                 |  |  |  |  |
|                     | Surface water connection to water body           |  |  |  |  |  |
| Fish Habitat:       | Impacted   | or degraded  |  |  |  |  |
|                     | Between 50% and 75% of stream is shaded          | No adjacent Water Quality Limited streams          |  |  |  |  |
| Rationale:          | Stream is in a natural channel                   | Adjacent land use is primarily developed uses      |  |  |  |  |
|                     | 10% to 25% of stream has instream structures     | Some non-salmonid fish species present in stream   |  |  |  |  |
| Water Quality:      | Impacted   | or degraded  |  |  |  |  |
|                     | Primary water source is groundwater              | Wetland is 0.5 to 5 acres, or <0.5 and connected   |  |  |  |  |
| Rationale:          | Wetland floods or ponds                          | Adjacent land use is primarily developed uses      |  |  |  |  |
|                     | High wetland vegetation cover                    | One or more adjacent Water Quality limited streams |  |  |  |  |
| Hydrologic Control: | Impacted or degraded                             |  |  |  |  |  |
|                     | Wetland is not within 100 year floodplain        | Dominated by emergent vegetation and ponding       |  |  |  |  |
| Rationale:          | Wetland floods or ponds                          | Open space downslope of wetland                    |  |  |  |  |
|                     | Wetland is 0.5 to 5 acres, or <0.5 and connected | Urban uses upslope of wetland                      |  |  |  |  |
|                     | Wetland has minor flow restrictions              | · · · · · ·  |  |  |  |  |

|   |                | Wet                   | and Determi                                 | nation Data                           | a Form                                |                                   |  |               |
|---|----------------|-----------------------|---|---------------------------------------|---------------------------------------|-----------------------------------|--|---------------|
| Damascus Natura                                     |                |                       | -   |                                       | WETLAND:                              | BA-A-01                           | OFF-SITE                                 |               |
| Location:<br>Cowardin Class:                        | PEM, PFO       | 26, south of St       | one Rd.                                     | -                                     | Map #<br>Plot No.                     | A7                                |  |               |
| HGM Class:  | RFT, F         |                       |   | -                                     | WET/UPL:                              | OFF-SITE<br>WET                   |  |               |
| Field Investigator(s):                              | ACS, TB        |                       |   | -                                     | Date:                                 | 3/16/2007                         |  |               |
| Recent Weather:                                     |                | tion in previou       | s 14 days, 88% c                            | of average                            |                                       | 0.10.2001                         |  |               |
| Do normal conditions exist                          |                |                       | Yes   | <u> </u>                              |                                       |                                   |  |               |
| Is the site significantly dist                      | urbed?         | 1                     | No  |                                       |                                       |                                   |  |               |
| Is the area a potential prob                        | lem area?      |                       | No  |                                       |                                       |                                   |  |               |
| Vegetation:   | Dominant Pla   | int Species           |   | · · · · · · · · · · · · · · · · · · · |                                       |                                   |  |               |
| Herb Stratum  | Ind. status    | % Cover               | % rel. cover                                | Tree Stratun                          | 3                                     | Ind. status                       | % Cover                                  | % rel. cover  |
| Total cover: 100%                                   |                |                       |   | Total cover:                          | 0%                                    |                                   | /0 00461                                 | 70 Tel. COver |
| Phalaris arundinacea                                | FACW           | 100%                  | 100%  | Alnus rubra                           | · · · · · · · · · · · · · · · · · · · | FAC                               | <u> </u>                                 |               |
|   |                | ·····                 |   | Sapling/ Shr                          | ub Stratum                            | Ind. status                       | % Cover                                  | % rel. cover  |
|   | · · · · · ·    |                       | · · · · ·                                   | Total cover:                          | 0%                                    |                                   | % Cover                                  | % rei. cover  |
| Percent of dominant specie<br>Remarks: Some areas r |                |                       | or FAC :                                    | sh                                    | 1                                     | of                                | 1  | =100%         |
| Soils:  |                |                       |   |                                       |                                       |                                   |  |               |
| Map Unit Name:                                      |                | lay loam, 0-3%        | )   | _Drainage Cla                         |                                       | poorly drained                    |  |               |
| Taxonomy:   | Fluvaquentic   | laplaquolis           |   | Hydric soil?                          | Yes                                   | Hydric inclusi                    |  | Yes           |
| Depth Horizon<br>off-site                           | Matrix Color   |                       | Redox Conc.                                 | Redox Desc.                           |                                       | Texture/Structu                   | re/etc                                   |               |
| Hydric soil indicators:                             |                |                       |   |                                       |                                       |                                   |  |               |
| Histosol  | -              |                       | Reducing Conditions                         |                                       | _                                     |                                   | ng (in sandy soils                       |               |
| Hist. Epipedon<br>Sulfidic Odor                     | - ,            |                       | Features (w/in 10")<br>lles (w/in 3"; >2mm) |                                       | -                                     |                                   | an (in sandy soils<br>n Hydric Soils Lis |               |
| Gley/low chroma                                     | High orga      | nic content in sur    | face (in sandy soils)                       | )                                     | -                                     | Listed C                          | -  | r ponded      |
| Remarks:  |                |                       |   |                                       |                                       |                                   |  |               |
| Hydrology:  |                |                       |   |                                       |                                       | · · · ·                           |  |               |
| Recorded Data Available?                            | Yes            | Primary Hydro         | Aerial photos                               | <u>X</u>                              | _Strm. gauge                          |                                   | Other:                                   |               |
| Depth of inundation:                                |                | <u>, milary riyur</u> | Inundated                                   | х                                     |                                       | econdary Hydrol<br>d Root Channel |  |               |
| Depth to saturation:                                |                | Saturate              | ed in upper 12"                             |                                       |                                       |                                   | tained leaves                            |               |
| Depth to free water:                                |                |                       | Water marks                                 |                                       | - ·                                   |                                   | I Survey Data                            |               |
|   |                |                       | <b>Drift lines</b>                          |                                       | _                                     | FAC                               | -Neutral Test                            |               |
|   |                |                       | ment deposits                               |                                       | -                                     |                                   | Other:                                   |               |
|   |                |                       |   | <u>×</u>                              | _                                     |                                   |  |               |
| Remarks: Patchy surface                             | e ponding in m | ieadow. Draina        | ge patterns along                           | g toe on west s                       | side                                  |                                   |  |               |
| Wetland Determinatio                                | n:             |                       |   |                                       |                                       |                                   |  |               |
| Is the hydrophytic vegetation                       |                | et?                   | Yes   |                                       |                                       |                                   |  |               |
| Is the hydric soil criterion r                      |                |                       | Yes   |                                       |                                       |                                   |  |               |
| Is the specific hydrology c                         |                |                       | Yes   |                                       |                                       |                                   |  |               |
| Is this sampling point withi                        |                |                       | Yes   |                                       |                                       |                                   |  |               |
| Comments: Boundary alo                              | ng topographic | break on west         | side, near row li                           | ne of alder; ge                       | nerally follows                       | s hydric soil line                | on Hwy. 26 sid                           | e             |
|   |                |                       |   |                                       | ·                                     |                                   | <u> </u>                                 |               |
|   | ,              |                       |   |                                       |                                       |                                   |  |               |

| Bamaoodo Mata  | ral Features  | Invento   | rv  |   | WETLAND:                   | CL-A-01  |   |                                       |
|--|---|---|---|---|----------------------------|--|---|---------------------------------------|
| Location:  |   |   | . near Clackama   | ۰P  |                            | G2   |   |                                       |
| Cowardin Class:  | PFO   | 224/211013 011.   |   | <u>s n.</u>   | Map #<br>Plot No.          | 02<br>DP-1   |   |                                       |
| HGM Class:   | RFT   |   |   |   | WET/UPL:                   | WET  |   |                                       |
| Field Investigator(s):   | MB/RR/ACS   |   |   | _   |                            | 3/1/2007   |   |                                       |
| Recent Weather:  |   |   | s 14 days, 29%  |   | Date:                      | 3/1/2007   |   |                                       |
| Do normal conditions ex  |   | ion in previou.   | Yes   | above avg.  |                            |  |   | · · · · · · · · · · · · · · · · · · · |
| Is the site significantly d  |   |   | No  |   |                            |  |   |                                       |
| Is the area a potential pr   |   |   | No  |   |                            |  |   |                                       |
| is the area a potential pr   | oblem alea i  |   |   |   |                            |  |   |                                       |
| Vegetation:  | Dominant Pla  | nt Species  |   |   |                            |  |   |                                       |
| Herb Stratum<br>Total cover: 85  | Ind. status   | % Cover   | % rel. cover  | <b>Tree Stratun</b><br>Total cover:   | n<br>50%                   | Ind. status  | % Cover   | % rel. cove                           |
| Phalaris arundinacea   | FACW  | 60%   | 70.6%   | 100 million (1997)  | amifera v. trici           |  | 50%   | 100.0%                                |
| Ranunculus repens  | FACW  | 15%   | 17.6%   | 1 000000  |                            |  |   | 0.0%                                  |
| Rubus ursinus  | FACU  | 5%  | 5.9%  | <u>`</u>  |                            |  |   | 0.0%                                  |
| Hedera helix   | UPL   | 5%  | 5.9%  | <u>,</u>  |                            |  |   |                                       |
| Iris pseudacorus   | OBL   |   | 0.0%  |   |                            |  |   | 0.0%                                  |
| Melissa officinalis  | UPL   | '   | 0.0%  | Sapling/ Shr  | uh Stratum                 | Ind. status  | % Cover   | % rel. cove                           |
| Carex species  | -   | i   | 0.0%  | Total cover:  | 40%                        |  | /a Cover  | /orel. COVe                           |
|  |   |   |   | 1   | 40 /0                      |  | 4 50/   | 07 -04                                |
|  |   |   | 0.0%  | Alnus rubra   | niforo llocale -           | FAC  | 15%   | 37.5%                                 |
|  |   | <b>.</b>  | 0.0%  |   | nifera [[sericea           |  | 15%   | 37.5%                                 |
|  |   |   | 0.0%  | Symphoricar   | oos albus                  | FACU   | 10%   | 25.0%                                 |
| Percent of dominant spe<br>Remarks: Some Poly  | ecies that are OBL<br>/gonum near plot  | ., FACW, and  | /or FAC :   |   | 4                          | of   | 5   | = 80%                                 |
| Map Unit Name:<br>Taxonomy:  | Cloquato silt lo<br>Cumulic Ulticha   |   |   | _ Drainage Cla<br>Hydric soil?  | iss:<br>No                 | well drained<br>Hydric inclusion   | ons?  | Yes                                   |
| Depth Horizon  | Matrix Color  |   |   |   |                            |  |   |                                       |
| 0-4"   | 10.1/17.0/0   |   | Redox Conc.   | Redox Desc.   |                            | Texture/Structur   |   |                                       |
| 1.024  | 10 YR 3/2   |   | NONE  |   |                            | SILT LOAM  |   |                                       |
| 10.004   | 10 YR 3/2<br>10 YR 3/2  |   |   | Redox Desc.<br>many med faint   |                            | SILT LOAM<br>LOAMY SAND  |   |                                       |
| 4-16"  |   |   | NONE  |   | N3/pores<br>many med disti | SILT LOAM<br>LOAMY SAND  |   |                                       |
| 4-16"<br>Hydric soil indicators:   |   | B   | NONE<br>10 YR 3/3   | many med faint  |                            | SILT LOAM<br>LOAMY SAND<br>nct   | e/etc   |                                       |
| 4-16"<br>Hydric soil indicators:<br>Histosol   |   |   | NONE<br>10 YR 3/3<br>educing Conditions   | many med faint  |                            | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakir   | e/etc   |                                       |
| 4-16"<br>Hydric soil indicators:   | 10 YR 3/2   | Redox.  | NONE<br>10 YR 3/3   | many med faint  |                            | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakin<br>Organic pa   | e/etc   | s)                                    |
| 4-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor  | 10 YR 3/2   | Redox.<br>oncretions/Nodu   | NONE<br>10 YR 3/3<br>educing Conditions<br>Features (w/in 10"   | many med faint  |                            | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakin<br>Organic pa   | e/etc   | 5)<br>5)<br>5t                        |
| 4-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma X   | 10 YR 3/2   | Redox.<br>oncretions/Nodu<br>ic content in surf   | NONE<br>10 YR 3/3<br>educing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>ace (in sandy soils  | many med faint  |                            | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakin<br>Organic pa   | e/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis   | 5)<br>5)<br>5t                        |
| 4-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma X<br>Remarks: Depletions  | 10 YR 3/2   | Redox.<br>oncretions/Nodu<br>ic content in surf   | NONE<br>10 YR 3/3<br>educing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>ace (in sandy soils  | many med faint  |                            | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakin<br>Organic pa   | e/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis   | 5)<br>5)<br>5t                        |
| 4-16" Hydric soll indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Depletions Hydrology:   | 10 YR 3/2<br>Ci<br>High organ<br>larger, more preva   | Redox.<br>oncretions/Nodu<br>ic content in surf<br>alent with dept  | NONE<br>10 YR 3/3<br>educing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>ace (in sandy soils<br>h; halo around d<br>Aerial photos   | many med faint  | many med disti             | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakir<br>Organic pa<br>Or   | e/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:   | 5)<br>5)<br>5t                        |
| 4-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Depletions Hydrology: Recorded Data Available   | 10 YR 3/2   | Redox.<br>oncretions/Nodu<br>ic content in surf<br>alent with dept  | NONE<br>10 YR 3/3<br>reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>ace (in sandy soils<br>h; halo around d<br>Aerial photos<br><i>logy Indicators</i>  | many med faint  | many med disti             | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakir<br>Organic pa<br>Or   | e/etc<br>ng (in sandy soils<br>an (in sandy soils<br>h Hydric Soils Lis<br>Other<br>Other:<br>pgy Indicators  | 5)<br>5)<br>5t                        |
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| 4-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Depletions Hydrology: Recorded Data Available Depth of inundation: Depth to saturation: Depth to free water:  | 10 YR 3/2   | Redox.<br>concretions/Nodu<br>ic content in surf<br>alent with dept<br>Primary Hydro<br>Saturate                  | NONE<br>10 YR 3/3<br>educing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>ace (in sandy soils<br>h; halo around d<br>Aerial photos<br>blogy Indicators<br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines  | many med faint  | many med disti             | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakir<br>Organic pa<br>Or<br>Or<br><i>Condary Hydrolo</i><br>I Root Channels<br>Water-st<br>Local Soil  | e/etc<br>ng (in sandy soils<br>an (in sandy soils<br>h Hydric Soils Lia<br>Other:<br>ogy Indicators<br>s (upper 12")<br>ained leaves<br>Survey Data<br>-Neutral Test          | 5)<br>5)<br>5t                        |
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| 4-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Depletions Hydrology: Recorded Data Available Depth of inundation: Depth to saturation: Depth to free water: Primary water source: stre Secondary: Clackamas Ri Remarks: Wetland Determinat Is the hydrophytic vegeta   | 10 YR 3/2<br>High organ<br>larger, more preva<br>Yes<br><u>NONE</u><br><u>SURFACE</u><br><u>4"</u><br>tam drainage<br>ver backflow<br>tion:<br>ation criterion me                         | Redox.<br>concretions/Nodu<br>ic content in surf<br>alent with depti<br>Primary Hydro<br>Saturate<br>Sedi<br>Drai | NONE<br>10 YR 3/3<br>reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>ace (in sandy soils<br>h; halo around d<br>Aerial photos<br><i>logy Indicators</i><br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns                | X       p <t< td=""><td>many med disti</td><td>SILT LOAM<br/>LOAMY SAND<br/>nct<br/>Organic streakir<br/>Organic pa<br/>Or<br/>Or<br/><i>Condary Hydrolo</i><br/>I Root Channels<br/>Water-st<br/>Local Soil</td><td>e/etc<br/>ng (in sandy soils<br/>an (in sandy soils<br/>h Hydric Soils Lia<br/>Other:<br/>ogy Indicators<br/>s (upper 12")<br/>ained leaves<br/>Survey Data<br/>-Neutral Test</td><td>5)<br/>5)<br/>5t</td></t<> | many med disti             | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakir<br>Organic pa<br>Or<br>Or<br><i>Condary Hydrolo</i><br>I Root Channels<br>Water-st<br>Local Soil  | e/etc<br>ng (in sandy soils<br>an (in sandy soils<br>h Hydric Soils Lia<br>Other:<br>ogy Indicators<br>s (upper 12")<br>ained leaves<br>Survey Data<br>-Neutral Test          | 5)<br>5)<br>5t                        |
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| 4-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Depletions Hydrology: Recorded Data Available Depth of inundation: Depth to saturation: Depth to free water: Primary water source: stre Secondary: Clackamas Ri Remarks: Wetland Determinat Is the hydrophytic vegeta Is the hydrology  | 10 YR 3/2<br>High organ<br>larger, more preva<br>?? Yes<br><u>NONE</u><br><u>SURFACE</u><br>4"<br>tam drainage<br>ver backflow<br>tion:<br>ation criterion me<br>n met?<br>criterion met? | Redox.<br>concretions/Nodu<br>ic content in surf<br>alent with depti<br>Primary Hydro<br>Saturate<br>Sedi<br>Drai | NONE<br>10 YR 3/3<br>reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>ace (in sandy soils<br>h; halo around d<br>Aerial photos<br>Nogy Indicators<br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns<br>Yes<br>Yes<br>Yes  | X       p <t< td=""><td>many med disti</td><td>SILT LOAM<br/>LOAMY SAND<br/>nct<br/>Organic streakir<br/>Organic pa<br/>Or<br/>Or<br/><i>Condary Hydrolo</i><br/>I Root Channels<br/>Water-st<br/>Local Soil</td><td>e/etc<br/>ng (in sandy soils<br/>an (in sandy soils<br/>h Hydric Soils Lia<br/>Other:<br/>ogy Indicators<br/>s (upper 12")<br/>ained leaves<br/>Survey Data<br/>-Neutral Test</td><td>5)<br/>5)<br/>5t</td></t<> | many med disti             | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakir<br>Organic pa<br>Or<br>Or<br><i>Condary Hydrolo</i><br>I Root Channels<br>Water-st<br>Local Soil  | e/etc<br>ng (in sandy soils<br>an (in sandy soils<br>h Hydric Soils Lia<br>Other:<br>ogy Indicators<br>s (upper 12")<br>ained leaves<br>Survey Data<br>-Neutral Test          | 5)<br>5)<br>5t                        |
| 4-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Depletions Hydrology: Recorded Data Available Depth of inundation: Depth to free water: Primary water source: stre Secondary: Clackamas Ri Remarks: Wetland Determinat Is the hydrophytic vegeta Is the hydric soil criteriol Is the specific hydrology Is this sampling point wi | 10 YR 3/2<br>High organ<br>larger, more preva<br>?? Yes<br><u>NONE</u><br><u>SURFACE</u><br>4"<br>tam drainage<br>ver backflow<br>tion:<br>ation criterion me<br>n met?<br>criterion met? | Redox.<br>concretions/Nodu<br>ic content in surf<br>alent with dept<br>Primary Hydro<br>Saturate<br>Sedi<br>Drai  | NONE<br>10 YR 3/3<br>reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>iace (in sandy soils<br>h; halo around d<br>Aerial photos<br>logy Indicators<br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns<br>Yes<br>Yes<br>Yes | x       x       x       x       x       x       x       x       x       x       x       x       x   | many med disti             | SILT LOAM<br>LOAMY SAND<br>nct<br>Organic streakir<br>Organic pa<br>Or<br><i>condary Hydrolo</i><br>I Root Channels<br>Water-st<br>Local Soil<br>FAC | e/etc<br>ng (in sandy soils<br>an (in sandy soils<br>h Hydric Soils Lis<br>Other:<br>Dy Indicators<br>s (upper 12")<br>ained leaves<br>Survey Data<br>-Neutral Test<br>Other: | s)<br>s)<br>s)<br>r<br>               |

| Damascus Natural Features | Inventory |
|---------------------------|-----------|
|---------------------------|-----------|

|  | n.               | Wet                | and Determi                  | nation Data                  | a Form             |                  |                     |                              |
|--|------------------|--------------------|------------------------------|------------------------------|--------------------|------------------|---------------------|------------------------------|
|  |                  |                    | r <b>y</b><br>near Clackamas | <u>s</u> R.                  | WETLAND:<br>Map #  | CL-A-01<br>G2    |                     |                              |
| Cowardin Class:  |                  |                    |                              | _                            | Plot No.           | DP-2             |                     |                              |
| HGM Class:   |                  |                    |                              | -                            | WET/UPL:           | UPL              |                     |                              |
| Field Investigator(s):   | MB/RR/ACS        |                    |                              | -                            | Date:              | 3/1/2007         |                     |                              |
| Recent Weather:  | 3.26" precipita  | tion in previou:   | s 14 days, 29% a             | bove avg.                    |                    | <u></u>          |                     |                              |
| Do normal conditions exis  |                  |                    | Yes                          |                              |                    |                  |                     |                              |
| Is the site significantly dis<br>Is the area a potential prot                |                  |                    | No<br>No                     |                              |                    |                  |                     |                              |
| Vegetation:  | Dominant Pla     | nt Spacing         |                              |                              |                    |                  |                     |                              |
|  |                  |                    |                              |                              |                    |                  |                     |                              |
| Herb StratumTotal cover:5%   | Ind. status      | % Cover            | % rel. cover                 | Tree Stratun<br>Total cover: | n<br>80%           | Ind. status      | % Cover             | % rel. covei                 |
| Phalaris arundinacea   | FACW             | 5%                 | 100.0%                       | Populus bals                 | amifera v. tric    | h FAC            | 70%                 | 87.5%                        |
| Polystichum munitum  | FACU             | Т                  |                              | Acer macrop                  | hyllum             | FACU             | 10%                 | 12.5%                        |
| Polypodium glycyrrhiza   | UPL              | т                  | -                            |                              |                    |                  |                     |                              |
| ของการสังกับของของของการสี่งเรื่องเรื่องไป<br>                               |                  |                    | •• ••                        | Sapling/ Shi<br>Total cover: | ub Stratum<br>120% | Ind. status      | % Cover             | % rel. cove                  |
|  |                  | <u> </u>           |                              | Symphoricar                  |                    | FACU             | 50%                 | 41.7%                        |
| · · · · · · · · · · · · · · · · · · ·  |                  |                    |                              |                              | nifera [[serice    |                  | 10%                 | 8.3%                         |
|  | 4                | • •                |                              | Rubus spect                  |                    | FAC+             | 5%                  | 4.2%                         |
|  |                  |                    |                              | Rubus ursinu                 |                    | FAC              | 10%                 | 8.3%                         |
|  |                  |                    |                              | Crataegus do                 |                    | FAC              | 5%                  | 4.2%                         |
|  |                  |                    |                              |                              | Dugiasli           | UPL              |                     |                              |
| Percent of dominant speci  |                  |                    |                              | Hedera helix                 | 2                  | of               | 40%                 | <u>33.3%</u><br>= <b>50%</b> |
| Soils:   |                  |                    |                              |                              |                    |                  |                     |                              |
| Map Unit Name:   | Cloquato silt lo |                    |                              | Drainage Cl                  |                    | well drained     |                     |                              |
| Taxonomy:  | Cumulic Ultic I  | Haploxerolis       |                              | Hydric soil?                 | No                 | Hydric inclusi   |                     | Yes                          |
| Depth Horizon  | Matrix Color     |                    | Redox Conc.                  | Redox Desc.                  |                    | Texture/Structu  |                     |                              |
| 0-16"  | 10 YR 3/2        |                    | NONE                         |                              |                    | Silt Loam -sandy | fraction increasin  | g with depth                 |
| Hydric soil indicators:  |                  |                    |                              |                              |                    |                  |                     |                              |
| Histosol   |                  |                    | Reducing Conditions          |                              | -                  |                  | ing (in sandy soils |                              |
| Hist. Epipedon   | -                |                    | . Features (w/in 10"         |                              | -                  |                  | an (in sandy soils  |                              |
| Sulfidic Odor  |                  |                    | ıles (w/in 3"; >2mm          | ,                            | -                  | C                | n Hydric Soils Lis  |                              |
| Gley/low chroma Remarks:   | High organ       | nic content in sur | face (in sandy soils         | )                            | -                  |                  | Othe                | r                            |
| Hydrology:   |                  |                    |                              |                              |                    |                  |                     |                              |
| Recorded Data Available?   | Yes              |                    | Aerial photos                | x                            | _Strm. gauge       |                  | Other:              |                              |
|  |                  | Primary Hydro      | ology Indicators             |                              |                    | econdary Hydrol  |                     |                              |
| Depth of inundation:   | NONE             |                    | Inundated                    |                              | _ Oxidize          | d Root Channe    |                     |                              |
| Depth to saturation:   | >16"             | Saturate           | ed in upper 12"              |                              |                    |                  | tained leaves       |                              |
| Depth to free water:   | >16"             |                    | Water marks                  |                              | _                  |                  | I Survey Data       |                              |
|  |                  |                    | Drift lines                  | Х                            | _                  | FAC              | C-Neutral Test      |                              |
|  |                  | Sed                | iment deposits               |                              | _                  |                  | Other:              |                              |
|  |                  | Dra                | inage patterns               |                              | _                  |                  |                     |                              |
| Remarks: Flooding did<br>discourage upland vegetatio<br>Wetland Determinatio | n                | s winter (sedin    | nent in tree bark,           | debris in shru               | bs) but does r     | ot appear freque | ent enough to       |                              |
| Is the hydrophytic vegetat   |                  | et?                | No                           |                              |                    |                  |                     | ·······                      |
| Is the hydric soil criterion   | met?             |                    | No                           |                              |                    |                  |                     |                              |
| Is the specific hydrology of   | riterion met?    |                    | Yes                          |                              |                    |                  |                     |                              |
| Is this sampling point with  |                  |                    | No                           |                              |                    |                  |                     |                              |

Comments: Higher ground above small stream in Clackamas River riparian fringe. May experience ephmeral flooding rarely.

|   |  |  |   |                                       | •           |  |  |              |
|---|--|--|---|---------------------------------------|-------------|--|--|--------------|
| <b>Damascus Natura</b>                                    | al Features                            | Inventor                               | У   |                                       | WETLAND:    | CL-A-01                                |  |              |
| Location:   | South of Hwy.                          | 224/Eilers Cir.                        | near Clackamas                              | R.                                    | Map #       | G2                                     |  |              |
| Cowardin Class:   | PEM                                    |  |   | -                                     | Plot No.    | DP-3                                   | · · · · · · · · · · · · · · · · · · ·    |              |
| HGM Class:  | RFT                                    |  |   | -                                     | WET/UPL:    | WET                                    |  |              |
| Field Investigator(s):                                    | MB/RR                                  |  |   | -                                     | Date:       | 3/1/2007                               |  |              |
| Recent Weather:   | 3.26" precipitat                       | tion in previous                       | s 14 days, 29% a                            | bove avg.                             |             |  |  |              |
| Do normal conditions exis                                 | st on the site?                        |  | Yes   |                                       |             | ······································ |  |              |
| Is the site significantly dis                             | sturbed?                               |  | No  |                                       |             |  |  |              |
| Is the area a potential pro                               |  |  | No  |                                       |             |  |  |              |
|   |  |  |   |                                       |             |  |  |              |
| Vegetation:   | Dominant Pla                           | nt Species                             |   |                                       |             |  |  |              |
| Herb Stratum<br>Total cover: 55%                          | Ind. status                            | % Cover                                | % rel. cover                                | Tree Stratur                          | n           | Ind. status                            | % Cover                                  | % rel. cover |
| Phalaris arundinacea                                      | FACW                                   | 55%                                    | 100.0%                                      |                                       |             |  |  |              |
|   | ·····                                  |  | ·   |                                       |             |  |  |              |
|   |  | •••••••••••••••••••••••••••••••••••••• |   | <u></u>                               |             |  | ·····                                    |              |
|   | ······                                 |  | ·   | Sapling/ Sh                           |             | Ind. status                            | % Cover                                  | % rel. cover |
| 1-11155 · · · ·   |  |  | -   | Total cover:                          | 20%         |  |  |              |
|   | ······                                 |  | -   | Salix sp.                             |             | FAC-FACW                               | 20%                                      | 100.0%       |
|   | ······································ |  | · · · · · · · · · · · · · · · · · · ·       |                                       |             | ******                                 |  |              |
| Percent of dominant spec                                  |  |  | /or FAC :                                   |                                       | 2           | of                                     | 2  | = 100%       |
| Remarks: Community  | around pond ma                         | rgin                                   |   |                                       |             |  |  |              |
| Soils:  |  |  |   |                                       |             |  |  |              |
| 50ll5.  |  |  |   |                                       |             |  |  |              |
| Map Unit Name:  | Wapato silt loa                        | am                                     |   | Drainage Cl                           | ass:        | poorly drained                         |  |              |
| Taxonomy:   | Fluvaquentic H                         | laplaquolis                            |   | Hydric soil?                          | Yes         | Hydric inclusi                         | ons?                                     | Yes          |
| Depth Horizon   | Matrix Color                           |  | Redox Conc.                                 | Redox Desc.                           |             | Texture/Structur                       | re/etc                                   |              |
| 0-16"   | 10 YR 3/2                              |  | 7.5 YR 4/6                                  | common, med                           | distinct    | SILT LOAM                              |  |              |
|   |  |  | N4/ begins at 10                            | ' few, med, disti                     | nct         |  |  |              |
|   |  |  |   |                                       |             |  |  |              |
| Hydric soil indicators:                                   |  | -                                      |   |                                       |             |  |  |              |
| Histosol  |  |  | educing Conditions<br>Features (w/in 10"    |                                       |             | •                                      | ng (in sandy soils                       |              |
| Hist. Epipedon<br>Sulfidic Odor                           |  |  |   |                                       | -           | -                                      | an (in sandy soils<br>n Hydric Soils Lis |              |
| Gley/low chroma X   |  |  | iles (w/in 3"; >2mm<br>face (in sandy soils |                                       | _           | 0                                      | Othe                                     |              |
| · ·   | oose, friable silt lo                  |  |   |                                       |             | r levels in nond                       |  |              |
| nearby Clackamas River. U<br>Hydrology:                   |  |  |   |                                       |             |  |  |              |
|   |  |  |   |                                       |             | <i></i>                                |  |              |
| Recorded Data Available?                                  | Yes                                    |  | Aerial photos                               | Х                                     | Strm. gauge |  | Other:                                   |              |
|   |  | Primary Hydro                          | ology Indicators                            |                                       | <u>S</u>    | econdary Hydrol                        | ogy Indicators                           |              |
| Depth of inundation:                                      | NONE                                   |  | Inundated                                   |                                       | Oxidize     | d Root Channel                         | ls (upper 12")                           |              |
| Depth to saturation:                                      | 0"                                     | Saturate                               | d in upper 12"                              | X                                     | -           | Water-s                                | tained leaves                            |              |
| Depth to free water:                                      | 3"                                     |  | Water marks                                 |                                       |             | Local Soi                              | I Survey Data                            |              |
|   |  |  | Drift lines                                 | x                                     | _           |  | -Neutral Test                            |              |
|   |  | Sedi                                   | iment deposits                              | X                                     |             |  | Other:                                   |              |
|   |  |  | inage patterns                              | X                                     | _           |  |  |              |
| Remarks: Source: sur                                      | face runoff, preci                     |  | -   | e of slope                            |             |  |  |              |
| Wetland Determinati                                       | on:                                    |  |   | · · · · · · · · · · · · · · · · · · · |             |  |  |              |
|   |  | ot?                                    | Ves   |                                       |             |  |  |              |
| Is the hydrophytic vegeta<br>Is the hydric soil criterion |  | GLÍ                                    | Yes   |                                       |             |  |  |              |
|   |  |  | Yes   |                                       |             |  |  |              |
| Is the specific hydrology                                 |  |  | Yes   |                                       |             |  |  |              |
| Is this sampling point wit                                |  |  | Yes   |                                       |             |  |  |              |
| Comments: shallow laye                                    | er of recently dep                     | osited sand (to                        | p 2" of soil)                               |                                       |             |  |  |              |
|   |  |  |   |                                       |             |  |  |              |

| Damascus Natura  | al Features   | Invento   | ry  |  | WETLAND:          | CL-A-01   |   |                                       |
|--|---|---|---|--|-------------------|---|---|---------------------------------------|
| Location:  |   |   | near Clackamas  | R.                                     | Map #             | G2  |   |                                       |
| Cowardin Class:  |   |   |   | -                                      | Plot No.          | DP-4  |   |                                       |
| HGM Class:   |   |   | •   | -                                      | WET/UPL:          | UPL   |   |                                       |
|  | MB/RR   |   |   | -                                      |                   | 3/1/2007  |   |                                       |
| Field Investigator(s):   |   |   | 4.4.4   | -                                      | Date:             | 3/1/2007  |   |                                       |
| Recent Weather:  |   | tion in previous  | s 14 days, 29% a  | ibove avg.                             |                   |   |   |                                       |
| Do normal conditions exis  |   |   | Yes   |  |                   |   |   |                                       |
| Is the site significantly dis  | sturbed?  |   | No  |  |                   |   |   |                                       |
| Is the area a potential pro  | blem area?  |   | No  |  |                   |   |   |                                       |
| Vegetation:  | Dominant Pla  | nt Species  | · · ·   |  |                   |   |   |                                       |
| Herb Stratum<br>Total cover: 95%   | Ind. status   | % Cover   | % rel. cover  | <b>Tree Strat</b><br>Total cover       |                   | Ind. status   | % Cover   | % rel. cove                           |
| Phalaris arundinacea   | FACW  | 90%   | 94.7%   |  |                   |   |   |                                       |
| Galium aparine   | FACU  | 5%  | 5.3%  | ······                                 |                   |   |   | • • • • • • • • • • • • • • • • • • • |
|  |   |   |   | Sapling/ S                             | hrub Stratum      | Ind. status   | % Cover   | % rel. cove                           |
| · · · · · · · · · · · · · · · · · · ·  |   |   |   | Total cover                            | :: 10%            | 6   |   |                                       |
|  | ·······   |   |   | Rubus disc                             | color [R. armenia | ac FACU   | 10%   | 100.0%                                |
| Percent of dominant spec   | ies that are OB   | FACW. and   | – –   |  | 1                 | of  | 2   | = 50%                                 |
| Remarks: Community   | around pond ma  | - <u>9</u>  |   |  |                   |   |   |                                       |
| Soils:   |   |   |   |  |                   |   |   |                                       |
| Soils:   |   |   |   | Dusingus                               | 01                |   |   |                                       |
| Map Unit Name:   | Wapato silt loa   |   |   | _Drainage (                            |                   | poorly drained  |   |                                       |
| Map Unit Name:<br>Taxonomy:  | Fluvaquentic H  |   |   | Hydric soi                             | I? Yes            | Hydric inclusi  | ions?   | Yes                                   |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon   | Fluvaquentic H<br>Matrix Color  |   | Redox Conc.   | Hydric soi<br>Redox Desc               | 1? Yes<br>        | Hydric inclus<br>Texture/Structu  | ions?   | Yes                                   |
| Map Unit Name:<br>Taxonomy:  | Fluvaquentic H  |   | Redox Conc.<br>10 YR 4/4  | Hydric soi                             | 1? Yes<br>        | Hydric inclusi  | ions?   | Yes                                   |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"  | Fluvaquentic H<br>Matrix Color  |   |   | Hydric soi<br>Redox Desc               | 1? Yes<br>        | Hydric inclus<br>Texture/Structu  | ions?   | Yes                                   |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:   | Fluvaquentic H<br>Matrix Color  | łaplaquolis   | 10 YR 4/4   | Hydric soi<br>Redox Desc<br>common, me | 1? Yes<br>        | Hydric inclus<br>Texture/Structu<br>SILT LOAM   | ions?<br>re/etc   |                                       |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol   | Fluvaquentic H<br>Matrix Color  | łaplaquolis<br>F  | 10 YR 4/4<br>Reducing Conditions  | Hydric soi<br>Redox Desc<br>common, me | 1? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki   | ions?<br>re/etc<br>ing (in sandy soil   | s)                                    |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2   | łaplaquolis<br>F<br>Redox   | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"  | Hydric soi<br>Redox Desc<br>common, me | 1? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic product  | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil   | s)<br>s)                              |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor  | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2   | laplaquolis<br>F<br>Redox<br>Concretions/Nodu   | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm   | Hydric soi<br>Redox Desc<br>common, me | 1? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic product  | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li   | s)<br>s)<br>st X                      |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2   | laplaquolis<br>F<br>Redox<br>Concretions/Nodu   | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"  | Hydric soi<br>Redox Desc<br>common, me | 1? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic product  | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil   | s)<br>s)<br>st X                      |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2   | laplaquolis<br>F<br>Redox<br>Concretions/Nodu   | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm   | Hydric soi<br>Redox Desc<br>common, me | 1? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic product  | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li   | s)<br>s)<br>st X                      |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits   | taplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur   | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos  | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic p<br>C   | ions?<br>re/etc<br>ing (in sandy soil<br>on Hydric Soils Li<br>Oth<br>Other:  | s)<br>s)<br>er                        |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits   | taplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur   | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils   | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic p<br>C   | ions?<br>re/etc<br>ing (in sandy soil<br>ban (in sandy soil<br>on Hydric Soils Li<br>Oth<br>Other:<br>Other:  | s)                                    |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits   | taplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur   | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos  | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic p<br>C   | ions?<br>re/etc<br>ing (in sandy soil<br>ban (in sandy soil<br>on Hydric Soils Li<br>Oth<br>Other:<br>Other:  | s)                                    |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits   | Aplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur  | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u>   | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic p<br>C<br>decondary Hydrol   | ions?<br>re/etc<br>ing (in sandy soil<br>ban (in sandy soil<br>on Hydric Soils Li<br>Oth<br>Other:<br>Other:  | s)<br>s)<br>er                        |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>D-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE  | Aplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur  | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated  | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic p<br>C<br>dradient<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C<br>C  | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Oth<br>Other:<br><u>Other:</u><br><b>Sogy Indicators</b><br>Is (upper 12'')                                  | s)<br>s)<br>er<br>                    |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE<br>>16"  | Aplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur  | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"   | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dreaki<br>Organic p<br>C<br>dreaki<br>Organic streaki<br>Organic p<br>C<br>C<br>dreaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>St | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Oth<br>Other:<br><u>Ogy Indicators</u><br>Is (upper 12'')<br>stained leaves                                  | s)<br>s)<br>er<br>                    |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE<br>>16"  | Aplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydra</u><br>Saturate                | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>Jles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines   | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dreaki<br>Organic p<br>C<br>dreaki<br>Organic streaki<br>Organic p<br>C<br>C<br>dreaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>St | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Oth<br>Other:<br><i>logy Indicators</i><br>Is (upper 12'')<br>stained leaves<br>il Survey Data               | s)<br>s)<br>er<br>                    |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE<br>>16"  | laplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydra</u><br>Saturate<br>Sed        | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>Jles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits                             | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dreaki<br>Organic p<br>C<br>dreaki<br>Organic streaki<br>Organic p<br>C<br>C<br>dreaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>St | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Other:<br>Other:<br>Other:<br>Other:<br>Is (upper 12")<br>stained leaves<br>il Survey Data<br>C-Neutral Test | s)<br>s)<br>er<br>                    |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>D-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE<br>>16"  | laplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydra</u><br>Saturate<br>Sed        | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>Jles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines   | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dreaki<br>Organic p<br>C<br>dreaki<br>Organic streaki<br>Organic p<br>C<br>C<br>dreaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>St | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Other:<br>Other:<br>Other:<br>Other:<br>Is (upper 12")<br>stained leaves<br>il Survey Data<br>C-Neutral Test | s)<br>s)<br>er<br>                    |
| Map Unit Name:         Taxonomy:         Depth       Horizon         0-16"         Hydric soil indicators:         Histosol         Hist. Epipedon         Sulfidic Odor         Gley/low chroma         Remarks:         recent sand         Hydrology:         Recorded Data Available?         Depth of inundation:         Depth to free water:         Remarks:   | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE<br>>16"<br>>16"  | laplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydra</u><br>Saturate<br>Sed        | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>Jles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits                             | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dreaki<br>Organic p<br>C<br>dreaki<br>Organic streaki<br>Organic p<br>C<br>C<br>dreaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>St | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Other:<br>Other:<br>Other:<br>Other:<br>Is (upper 12")<br>stained leaves<br>il Survey Data<br>C-Neutral Test | s)<br>s)<br>er<br>                    |
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| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:<br>Metland Determination<br>Is the hydrophytic vegetat<br>Is the hydrophytic vegetat  | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE<br>>16"<br>>16"<br>on:<br>tion criterion m<br>met?                   | laplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>hic content in sur<br><u>Primary Hydra</u><br>Saturate<br>Sed<br>Dra | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>ainage patterns                           | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dreaki<br>Organic p<br>C<br>dreaki<br>Organic streaki<br>Organic p<br>C<br>C<br>dreaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>St | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Other:<br>Other:<br>Other:<br>Other:<br>Is (upper 12")<br>stained leaves<br>il Survey Data<br>C-Neutral Test | s)                                    |
| Map Unit Name:         Taxonomy:         Depth       Horizon         0-16"         Hydric soil indicators:         Histosol         Hist. Epipedon         Sulfidic Odor         Gley/low chroma         Remarks:         recent sand         Hydrology:         Recorded Data Available?         Depth of inundation:         Depth to free water:         Depth to free water:         Remarks:         Wetland Determination         Is the hydrophytic vegetate         Is the hydrophytic soil criterion         Is the specific hydrology of | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE<br>>16"<br>>16"<br>on:<br>tion criterion m<br>met?<br>criterion met? | taplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>hic content in sur<br>Primary Hydra<br>Saturate<br>Sed<br>Dra        | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>ainage patterns<br><u>No</u><br>Yes<br>No | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dreaki<br>Organic p<br>C<br>dreaki<br>Organic streaki<br>Organic p<br>C<br>C<br>dreaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>St | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Other:<br>Other:<br>Other:<br>Other:<br>Is (upper 12")<br>stained leaves<br>il Survey Data<br>C-Neutral Test | s)<br>s)<br>er<br>                    |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: recent sand<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to free water:<br>Depth to free water:<br>Metland Determination<br>Is the hydrophytic vegetat<br>Is the hydrophytic vegetat  | Fluvaquentic H<br>Matrix Color<br>10 YR 3/2<br>High organ<br>deposits<br>Yes<br>NONE<br>>16"<br>>16"<br>on:<br>tion criterion m<br>met?<br>criterion met? | taplaquolis<br>F<br>Redox<br>Concretions/Nodu<br>hic content in sur<br>Primary Hydra<br>Saturate<br>Sed<br>Dra        | 10 YR 4/4<br>Reducing Conditions<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>ainage patterns                           | Hydric soi<br>Redox Desc<br>common, me | I? Yes<br>        | Hydric inclusi<br>Texture/Structu<br>SILT LOAM<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dreaki<br>Organic p<br>C<br>dreaki<br>Organic streaki<br>Organic p<br>C<br>C<br>dreaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>St | ions?<br>re/etc<br>ing (in sandy soil<br>van (in sandy soil<br>on Hydric Soils Li<br>Other:<br>Other:<br>Other:<br>Other:<br>Is (upper 12")<br>stained leaves<br>il Survey Data<br>C-Neutral Test | s)<br>s)<br>er<br>                    |

| Damascus Natura<br>Location:<br>Cowardin Class:   | South of Hwy. 2                    |   | •  | R.                           | WETLAND:<br>Map #<br>Plot No.         | CL-A-01<br>G2<br>DP-5  |   |   |
|---|------------------------------------|---|--|------------------------------|---------------------------------------|------------------------|---|---|
| HGM Class:  | ,                                  |   |  |                              | WET/UPL:                              | UPL                    |   |   |
|   | ACS/TB                             |   |  |                              | Date:                                 | 4/4/2007               |   |   |
| Recent Weather:   | 3.26" precipitati                  | on in previous                                  | 14 days, 69% a   | bove avg.                    |                                       |                        |   |   |
| Do normal conditions exist  | on the site?                       |   | Yes  |                              |                                       |                        |   |   |
| Is the site significantly dist  | urbed?                             |   | No   |                              |                                       |                        |   |   |
| Is the area a potential prob  | lem area?                          |   | No   |                              |                                       |                        |   |   |
| Vegetation:   | Dominant Plan                      | t Species                                       |  |                              | · · · · · · · · · · · · · · · · · · · |                        |   | 1   |
| Herb Stratum<br>Total cover: 60%  | Ind. status                        | % Cover   | % rel. cover   | Tree Stratum<br>Total cover: | n<br>                                 | / Ind. status          | % Cover   | % rel. cover                                    |
| Festuca arundinacea   | FAC'                               | 20%   | 33.3%  |                              |                                       |                        |   |   |
| Dactylis glomerata  | FACU                               | 10%   | 16.7%  |                              |                                       |                        |   |   |
| Trisetum spicatum   | UPL                                | 10%   | 16.7%  |                              |                                       |                        |   |   |
| Plantago lanceolata   | FAC                                | 10%   | 16.7%  |                              |                                       |                        |   |   |
| Hypericum perforatum  | UPL                                | 10%   | 16.7%  |                              |                                       |                        |   |   |
| Vicia sp  |                                    |   |  | Sapling/ Shr<br>Total cover: | ub Stratum                            | Ind. status            | % Cover   | % rel. cover                                    |
| Percent of dominant specie<br>Remarks: <u>Populous bals</u><br>Soils:   | es that are OBL<br>samifera nearby | , FACW, and/                                    | or FAC :   |                              | 1                                     | of                     | 5   | 20%   |
|   |                                    |   |  |                              |                                       |                        |   |   |
| Map Unit Name:  | Wapato silt loar                   |   |  | _Drainage Cla                |                                       | poorly drained         |   |   |
| Taxonomy:   | Fluvaquentic Ha                    | aplaquolis                                      | <u>_</u> _   | Hydric soil?                 | Yes                                   | Hydric inclus          |   | Yes   |
| Depth Horizon   | Matrix Color                       |   | Redox Conc.  | Redox Desc.                  |                                       | Texture/Structu        | re/etc  |   |
| 0-6"  | 2.5 Y 3/2                          | ···· -····                                      |  |                              |                                       | loamy sand             |   |   |
| 6-18"   | 10 YR 4/3                          |   |  |                              |                                       | sandy loam             |   |   |
| Hydric soil indicators:<br>Histosol<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Lens of silt at<br>movement of water<br>Hydrology: |                                    | Redox.<br>oncretions/Nodul<br>c content in surf | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils)<br>10 YR 4/4 Fe sta | X                            | aces. Soil is k                       | Organic p<br>C         | ing (in sandy soils<br>van (in sandy soils<br>on Hydric Soils Lis<br>Othe<br>on to downward | t <u>X · · · · · · · · · · · · · · · · · · </u> |
| Recorded Data Available?  | Yes                                |   | Aerial photos  | <u>×</u>                     | _Strm. gauge                          |                        | Other:  |   |
| Donth of inundations  |                                    | rimary Hydro                                    | logy Indicators  |                              |                                       | <u>econdary Hydrol</u> |   |   |
| Depth of inundation:  | NONE                               | 0-4   | Inundated  |                              | - Oxidize                             | d Root Channe          | /   |   |
| Depth to saturation:  | >16"                               | Saturate  | d in upper 12"   |                              | -                                     |                        | stained leaves  |   |
| Depth to free water:  | >16"                               |   | Water marks  | <u></u>                      | -                                     |                        | il Survey Data  |   |
|   |                                    | Sedi  | Drift lines<br>ment deposits   |                              | -                                     | FAC                    | C-Neutral Test<br>Other:  |   |
| Remarks: Sand deposits  | s from overbank                    |   | (November)   |                              | -                                     |                        |   |   |
| Wetland Determinatio  | n:                                 |   |  |                              |                                       |                        |   |   |
| Is the hydrophytic vegetation<br>Is the hydric soil criterion r<br>Is the specific hydrology cr<br>Is this sampling point with            | net?<br>iterion met?               | t?  | No<br>No<br>No   |                              |                                       |                        |   |   |
| Comments: Plot is 55' to e<br>as part of DET 02-0606, which   | edge of riprap/sh                  |   | ap is 20' from ec  | Ige of water.                | This point is in                      | the area previo        | usly mapped w   | etland  |

| Damascus Natura  |  | <b>Inventor</b><br>224 and Eilers |  |  | WETLAND:<br>Map No: | CL-A-02<br>G2                    |  |  |
|--|--|-----------------------------------|--|--|---------------------|----------------------------------|--|--|
| Cowardin Class:  | PEM, PSS, PC                           | W                                 |  | •                                      | Plot No:            | DP 1                             |  | ······································ |
| HGM Class:   | RFT                                    | -                                 |  | •                                      | WET/UPL:            | WET                              |  |  |
| Field Investigator(s):   | ACS/TB/RR                              |                                   | <i>d</i>   |  | Date:               | 3/1/2007                         |  |  |
| Recent Weather:  |  | tion in previous                  | 14 days, 29% a   |  | bate.               | 0/1/2007                         |  |  |
|  | ++++++++++++++++++++++++++++++++++++++ | uon in pievious                   |  | bove average                           |                     |                                  |  |  |
| Do normal conditions exist   |  |                                   | Yes  |  |                     |                                  |  | •                                      |
| Is the site significantly dist   | urbed?                                 |                                   | No   |  |                     |                                  |  |  |
| Is the area a potential prob   | lem area?                              |                                   | No   |  |                     |                                  |  |  |
| Vegetation:  | Dominant Pla                           | nt Species                        |  |  |                     |                                  |  |  |
| Herb Stratum<br>Total cover: 80%   | Ind. status                            | % Cover                           | % rel. cover   | Tree Stratum<br>Total cover:           | ı<br>20%            | Ind. status                      | % Cover  | % rel. cover                           |
| Phalaris arundinacea   | FACW                                   | 75%                               | 93.8%  | Alnus rubra                            |                     | FAC                              | 10%  | 50.0%                                  |
| Ranunculus repens  | FACW                                   | 5%                                | 6.3%   | Salix Jasiandr                         | a [[lucida var.     | FACW+                            | 10%  | 50.0%                                  |
| Iris sp  |  | T                                 |  |  |                     |                                  |  |  |
|  | ······                                 |                                   | ·····  | Sapling/ Shr                           |                     | Ind. status                      | % Cover  | % rel. cover                           |
|  |  |                                   |  | Total cover:                           | 70%                 |                                  |  |  |
| · · · · · · · · · · · · · · · · · · ·  |  |                                   |  | Salix lasiandi                         | a [[lucida var.     | FACW+                            | 70%  | 100.0%                                 |
|  |  |                                   |  | Alnus rubra                            |                     | FAC                              |  |  |
|  |  |                                   |  |  |                     |                                  |  | . <u></u>                              |
| Percent of dominant speci<br>Remarks:  | es that are OB                         | L, FACW, and/                     | or FAC :   |  | 4                   | of                               | 4  | = 100%                                 |
| Soils:   |  |                                   |  |  |                     |                                  |  |  |
| Map Unit Name:<br>Taxonomy:  | Riverwash                              |                                   |  | Drainage Cla<br>Hydric soil?           | a <b>ss:</b><br>Yes | N/A - floodplai<br>Hydric inclus |  |  |
| Depth Horizon  | Matrix Color                           |                                   | Redox Conc.  | Redox Desc.                            |                     | Texture/Structu                  | re/etc   |  |
| 0-4"   | 10 YR 3/2                              |                                   | few, distinct, med   |  |                     | sandy silt                       |  |  |
| 4-10"  | 7.5 YR 2.5/1                           |                                   | few, distinct, med   |  |                     | silty sand                       |  |  |
| 4-10   | 7.5 11 2.5/1                           |                                   | iew, distilict, met  | aum                                    |                     | Sitty Salid                      |  |  |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor   |  | Redox.<br>Concretions/Nodul       | educing Conditions<br>Features (w/in 10")<br>es (w/in 3"; >2mm | ······································ | -                   | Organic p                        | ing (in sandy soils)<br>an (in sandy soils)<br>on Hydric Soils Lis | )<br>t <u>X</u>                        |
| Gley/low chroma  | High organ                             | nic content in surfa              | ace (in sandy soils)   | X                                      | -                   |                                  | Othe   | ſ                                      |
| Remarks:<br>Hydrology:   |  |                                   |  |  |                     |                                  |  |  |
| Recorded Data Available?   | Yes                                    |                                   | Aerial photos  | x                                      | _Strm. gauge        |                                  | Other:   | LIDAR                                  |
|  |  | Primary Hydro                     | logy Indicators  |  |                     | econdary Hydrol                  |  |  |
| Depth of inundation:   | NONE                                   |                                   | Inundated  |  | Oxidize             | d Root Channe                    | Is (upper 12")   |  |
| Depth to saturation:   | 0"                                     | Saturate                          | d in upper 12"   | X                                      | -                   | Water-s                          | tained leaves  |  |
| Depth to free water:   | 6"                                     |                                   | Water marks  |  | -                   | Local So                         | il Survey Data   |  |
| ,  |  |                                   | Drift lines  | x                                      | -                   |                                  | C-Neutral Test   |  |
|  |  | Codi                              | ment deposits  |  | -                   |                                  | Other:   |  |
|  |  |                                   | nage patterns  |  | -                   |                                  | Other.   |  |
| Remarks:   |  | Dia                               | nage patterns  |  | -                   |                                  |  |  |
| Wetland Determination  | en:                                    |                                   |  |  |                     |                                  |  |  |
| Is the hydrophytic vegetati<br>Is the hydric soil criterion<br>Is the specific hydrology c<br>Is this sampling point with<br>Comments: | met?<br>riterion met?                  | et?                               | YES<br>YES<br>YES<br>YES                                       |  |                     |                                  |  |  |

| Damascus Natura               | -               | Invento          | r. /                 |                | MOTI AND.        | <b>CI A</b> 00  |                     |                                       |
|-------------------------------|-----------------|------------------|----------------------|----------------|------------------|-----------------|---------------------|---------------------------------------|
|                               |                 |                  | •                    |                | WETLAND:         |                 |                     |                                       |
| Location:                     | South of Hwy.   | 224 and Eilers   | s Circle             | _              | Map No:          | G2              |                     |                                       |
| Cowardin Class:               |                 |                  |                      | _              | Plot No:         | DP 2            |                     |                                       |
| HGM Class:                    |                 |                  |                      |                | WET/UPL:         | UPL             |                     |                                       |
| Field Investigator(s):        | ACS/TB/RR       |                  |                      | -              | Date:            | 3/1/2007        |                     |                                       |
| Recent Weather:               | 3.26" precipita | tion in previous | s 14 days, 29% a     | hove average   |                  |                 |                     |                                       |
| Do normal conditions exis     |                 |                  | Yes                  | bore average   |                  |                 |                     |                                       |
|                               |                 |                  |                      |                |                  |                 |                     |                                       |
| Is the site significantly dis |                 |                  | No                   |                |                  |                 |                     |                                       |
| Is the area a potential prot  | olem area?      |                  | No                   |                |                  |                 |                     |                                       |
| Vegetation:                   | Dominant Pla    | nt Species       |                      |                |                  |                 | ·                   |                                       |
|                               |                 |                  |                      |                |                  |                 |                     |                                       |
| Herb Stratum                  | Ind. status     | % Cover          | % rel. cover         | Tree Stratun   | n                | Ind. status     | % Cover             | % rel. cover                          |
| Total cover: 70%              | )               |                  |                      | Total cover:   | 10%              | ,<br>0          |                     |                                       |
| Tanacetum vulgare             | NI              | <sup>*</sup> 20% | 28.6%                | Salix Jasiand  | ra [[lucida var. | FACW+           | 10%                 | 100.0%                                |
| Phalaris arundinacea          | FACW            | 30%              | * 42.9%              | - ounx raoiana | a maaraa var.    |                 |                     |                                       |
|                               |                 |                  |                      |                |                  |                 |                     | <u> </u>                              |
| Unidentified grasses          | -               | 20%              | 28.6%                |                |                  |                 |                     |                                       |
|                               |                 |                  | - <u></u>            |                |                  |                 |                     |                                       |
| <b></b>                       |                 |                  |                      | Sapling/ Shr   |                  | Ind. status     | % Cover             | % rel. cover                          |
|                               | <u> </u>        |                  |                      | Total cover:   | . 30%            | -               | an - 1              |                                       |
|                               |                 |                  |                      | Cytisus scop   |                  | UPL             | 5%                  | 16.7%                                 |
|                               |                 |                  |                      | Salix lasiand  | ra [[lucida var. | FACW+           | 10%                 | 33.3%                                 |
|                               |                 |                  |                      | Rubus discol   | or [R. armenia   | a FACU          | 15%                 | 50.0%                                 |
|                               |                 |                  |                      | Rubus ursinu   | 15               | FACU            | т                   |                                       |
|                               |                 |                  |                      |                |                  |                 | <u> </u>            |                                       |
| Percent of dominant speci     | as that are OP  | EACW/ and        |                      |                | 4                | of              | 6                   | = 67%                                 |
|                               | grass assumed   |                  | OFFAC.               |                |                  | <b></b>         |                     | - 0176                                |
| Soils:                        |                 |                  |                      |                |                  |                 |                     |                                       |
| Map Unit Name:                | Riverwash       |                  |                      | Drainage Cla   | 355.             | N/A - floodplai | n                   |                                       |
| Taxonomy:                     | Taverwash       |                  |                      |                | Yes              | Hydric inclusi  |                     |                                       |
| •                             |                 |                  |                      | Hydric soil?   | 165              | •               |                     |                                       |
| Depth Horizon                 | Matrix Color    |                  | Redox Conc.          | Redox Desc.    |                  | Texture/Structu | re/etc              |                                       |
| 0-4"                          | 10YR 3/2        |                  |                      |                |                  | sandy silt      |                     |                                       |
| 4-10"                         | 10YR 4/2        |                  |                      |                |                  | silty sand      |                     |                                       |
|                               |                 |                  |                      |                |                  |                 |                     |                                       |
| Hydric soil indicators:       |                 |                  |                      |                |                  |                 |                     |                                       |
| Histosol                      |                 | R                | educing Conditions   | 3              |                  | Organic streaki | ing (in sandy soils | )                                     |
| Hist. Epipedon                | -               |                  | Features (w/in 10"   |                | -                | -               | an (in sandy soils  |                                       |
| Sulfidic Odor                 | -<br>c          |                  | les (w/in 3"; >2mm   |                | -                |                 | n Hydric Soils Lis  |                                       |
| Gley/low chroma               |                 |                  | face (in sandy soils |                | -                |                 | ,<br>Othe           |                                       |
| Remarks:                      | _ 0.0           |                  | ·····, ····, ····,   |                | -                |                 |                     | · · · · · · · · · · · · · · · · · · · |
| Hydrology:                    |                 |                  |                      |                |                  |                 |                     |                                       |
|                               |                 |                  | ·····                |                | <b>.</b>         |                 |                     |                                       |
| Recorded Data Available?      | Yes             | <b>D</b>         | Aerial photos        | <u>×</u>       | _Strm. gauge     |                 | Other:              |                                       |
| <b></b>                       |                 | Primary Hydro    | ology Indicators     |                |                  | econdary Hydrol |                     |                                       |
| Depth of inundation:          | NONE            |                  | Inundated            | <u></u>        | _ Oxidize        | d Root Channe   | ls (upper 12")      |                                       |
| Depth to saturation:          | >18"            | Saturate         | d in upper 12"       |                |                  | Water-s         | tained leaves       |                                       |
| Depth to free water:          | >18"            |                  | Water marks          |                | -                | Local Soi       | I Survey Data       |                                       |
|                               |                 |                  | Drift lines          |                | -                |                 | -Neutral Test       |                                       |
|                               |                 | Sadi             | ment deposits        | ·              | -                |                 | Other:              |                                       |
|                               |                 |                  | •                    |                | -                |                 | other.              |                                       |
| Demarka                       |                 | Dra              | inage patterns       |                | -                |                 |                     |                                       |
| Remarks:                      |                 |                  |                      | <u></u>        |                  |                 |                     |                                       |
| Wetland Determination         | on:             |                  |                      |                |                  |                 |                     | <u></u>                               |
| Is the hydrophytic vegetati   | on criterion m  | ət?              | YES                  |                |                  |                 |                     |                                       |
|                               |                 |                  |                      |                |                  |                 |                     |                                       |
| Is the hydric soil criterion  |                 |                  | NO                   |                |                  |                 |                     |                                       |
| Is the specific hydrology c   |                 |                  | NO                   |                |                  |                 |                     |                                       |
| Is this sampling point with   | in a wetland?   |                  | NO                   |                |                  |                 |                     |                                       |
| Comments:                     |                 |                  |                      |                |                  |                 |                     |                                       |
|                               |                 |                  |                      |                |                  |                 |                     |                                       |

| Damascus Natura   | l Features  | Invento   | rv   |  | WETLAND:                 | NO-A-01   |  |                      |
|---|---|---|--|--|--------------------------|---|--|----------------------|
| Location:   | North of Hoffeis  |   | •  |  | Map No:                  | D5  |  |                      |
| Cowardin Class:   | PFO, PSS, PEI   |   | 01 242110  | -  | Plot No:                 | DP 1  |  |                      |
| HGM Class:  | S/F   | VI  |  | -  | WET/UPL:                 | WET   |  |                      |
| Field Investigator(s):  | ACS/TB  |   | <u></u>  | -  | Date:                    | 3/16/2007   |  |                      |
| Recent Weather:   |   | ion in previous   | s 14 days, 88% c   | f average  | Date.                    | 5/10/2001   |  |                      |
| Do normal conditions exist  |   |   | Yes  | n average  |                          | · · · · ·   |  |                      |
|   |   |   |  |  |                          |   |  |                      |
| Is the site significantly dist  |   |   | No   |  |                          |   |  |                      |
| Is the area a potential prob  | iem area?   |   | No   |  |                          |   |  |                      |
| Vegetation:   | Dominant Plar   | nt Species  |  |  |                          |   |  |                      |
| Herb Stratum<br>Total cover: 40%  | Ind. status   | % Cover   | % rel. cover   | Tree Stratum<br>Total cover:   | <b>1</b><br>35%          | Ind. status   | % Cover  | % rel. cover         |
| Ranunculus repens   | FACW '  | 40%   | 100.0%   | Fraxinus latif   | olia                     | FACW  | 10%  | 28.6%                |
| Carex deweyana  | FAC+  | Т   |  | Alnus rubra  |                          | FAC   | 25%  | 71.4%                |
|   |   |   |  |  |                          |   |  | ·                    |
|   |   |   | - <u> </u>   | Sapling/ Shr   | ub Stratum               | Ind. status   | % Cover  | % rel. cover         |
|   |   |   |  | Total cover:   | 85%<br>hifera [[serice   |   | 30%  | 35.3%                |
|   |   |   |  |  | or [R. armenia           |   | 55%  | 64.7%                |
|   | · · · · · · · · · · · · · · · · · · ·   |   |  |  |                          |   |  |                      |
|   | ·   |   |  |  |                          |   |  |                      |
|   |   | FACW and  | /or FAC :  |  | 4                        | of  | 5  | = 80%                |
|   |   |   | - 10% cover in pl  | ot   |                          |   |  |                      |
| Remarks: PSME on wet  | land boundary /   | edge of plot -  |  |  |                          |   |  |                      |
| Remarks: <u>PSME on wet</u><br>Soils:<br>Map Unit Name:   | land boundary /<br>Delena Silt Loa  | edge of plot -<br>Im, 3-12%   |  | _Drainage Cla  | 455:                     | poorly drained  | 0052   | Vas                  |
| Remarks: <u>PSME on wet</u><br>Soils:<br>Map Unit Name:<br>Taxonomy:  | land boundary /<br>Delena Silt Loa<br>Humic Fragiaqi  | edge of plot -<br>Im, 3-12%   | - 10% cover in pl  | _Drainage Cla<br>Hydric soil?  |                          | Hydric inclusi  |  | Yes                  |
| Remarks:     PSME on well       Soils:  | Delena Silt Loa<br>Humic Fragiaqi<br>Matrix Color   | edge of plot -<br>Im, 3-12%   |  | _Drainage Cla  | 455:                     | Hydric inclusi<br>Texture/Structur  | re/etc   | Yes                  |
| Remarks:     PSME on wet       Soils:       Map Unit Name:       Taxonomy:       Depth     Horizon       0-9" | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2  | edge of plot -<br>Im, 3-12%   | - 10% cover in pl<br>Redox Conc.   | _Drainage Cla<br>Hydric soil?<br>Redox Desc.   | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,  | re/etc<br>friable  | Yes                  |
| Soils:<br>Map Unit Name:<br>Taxonomy:   | Delena Silt Loa<br>Humic Fragiaqi<br>Matrix Color   | edge of plot -<br>Im, 3-12%   | - 10% cover in pl  | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, J                       | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur  | re/etc<br>friable  | Yes                  |
| Remarks:     PSME on wet       Soils:   | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2  | edge of plot -<br>Im, 3-12%   | - 10% cover in pl<br>Redox Conc.   | _Drainage Cla<br>Hydric soil?<br>Redox Desc.   | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,  | re/etc<br>friable  | Yes                  |
| Remarks:     PSME on wet       Soils:   | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2  | edge of plot -<br>um, 3-12%<br>uepts  | - 10% cover in pl<br>Redox Conc.   | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, j<br>in matrix          | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, st   | re/etc<br>friable  |                      |
| Remarks:     PSME on wet       Soils:   | Delena Silt Loa<br>Humic Fragiaqi<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4   | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox  | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>. Features (w/in 10"   | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix          | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur<br>Silt Ioam, sub ab,<br>silty clay Ioam, sti  | re/etc<br>friable<br>icky  | 5)                   |
| Remarks:     PSME on wet       Soils:   | Delena Silt Loa<br>Humic Fragiaqi<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4   | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu   | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm  | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix          | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur<br>Silt Ioam, sub ab,<br>silty clay Ioam, sti<br>Organic streakii<br>Organic pr  | re/etc<br>friable<br>icky<br>ng (in sandy soils  | 5)<br>5)             |
| Remarks:     PSME on wet       Soils:   | Delena Silt Loa<br>Humic Fragiaqi<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4   | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu   | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>. Features (w/in 10"   | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix          | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur<br>Silt Ioam, sub ab,<br>silty clay Ioam, sti<br>Organic streakii<br>Organic pr  | re/etc<br>friable<br>icky<br>ng (in sandy soils<br>an (in sandy soils  | s)<br>s)<br>st       |
| Remarks:     PSME on well       Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>C<br>High organ   | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu   | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm  | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix          | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur<br>Silt Ioam, sub ab,<br>silty clay Ioam, sti<br>Organic streakii<br>Organic pr  | re/etc<br>friable<br>icky<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Li   | s)<br>s)<br>st       |
| Remarks:     PSME on wet       Soils:   | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>C<br>High organ   | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu   | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm  | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix          | ass:<br>Yes              | Hydric inclusi<br>Texture/Structur<br>Silt Ioam, sub ab,<br>silty clay Ioam, sti<br>Organic streakii<br>Organic pr  | re/etc<br>friable<br>icky<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Li   | s)<br>s)<br>st       |
| Remarks:       PSME on weth         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>C<br>High organ<br>aterial?   | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur  | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>Features (w/in 10"<br>Jes (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos  | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix          | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt Ioam, sub ab,<br>silty clay Ioam, sti<br>Organic streaki<br>Organic streaki<br>Organic pi<br>O   | re/etc<br>friable<br>icky<br>ng (in sandy soil<br>an (in sandy soil<br>n Hydric Soils Li<br>Othe<br>Other:   | s)<br>st<br>         |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>Grad<br>High organ<br>aterial?<br>Yes   | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur  | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u>  | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, j<br>in matrix          | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt Ioam, sub ab,<br>silty clay Ioam, sti<br>Organic streaki<br>Organic streaki<br>Organic pi<br>O   | re/etc<br>friable<br>icky<br>ng (in sandy soil:<br>an (in sandy soil:<br>n Hydric Soils Li<br>Other<br>Other:  | s)<br>s)<br>st<br>er |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>Ci<br>High organ<br>laterial?<br>Yes<br>NONE  | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur  | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Conditions<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated   | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt Ioam, sub ab,<br>silty clay Ioam, sti<br>Organic streaki<br>Organic streaki<br>Organic pi<br>Organic pi<br>Organic pi<br>Organic pi<br>Organic pi<br>Organic pi                                | re/etc<br>friable<br>icky<br>ng (in sandy soil:<br>an (in sandy soil:<br>n Hydric Soils Li<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12'')   | s)<br>s)<br>st<br>   |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>Ci<br>High organ<br>aterial?<br>Yes<br>NONE<br>8''  | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur  | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Conditions<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"  | Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, j<br>in matrix          | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, st<br>Organic streaki<br>Organic streaki<br>Organic pi<br>Organic pi<br>Organic pi<br>Organic pi<br>dreaki<br>Organic hydrole<br>dreaki<br>dreaki<br>Mater-s | re/etc<br>friable<br>icky<br>ng (in sandy soil:<br>an (in sandy soil:<br>an (in sandy soil:<br>n Hydric Soils Li<br>Other:<br><u>ogy Indicators</u><br>s (upper 12'')<br>tained leaves                 | s)st                 |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>Ci<br>High organ<br>laterial?<br>Yes<br>NONE  | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur  | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks   | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, sti<br>Organic streakin<br>Organic streakin<br>Organic pr<br>O<br>econdary Hydrole<br>d Root Channel<br>Water-s<br>Local Soi                                 | re/etc<br>friable<br>icky<br>ng (in sandy soil:<br>an (in sandy soil:<br>an (in sandy soil:<br>Other:<br>Other:<br>Other:<br>ogy <i>Indicators</i><br>Is (upper 12")<br>tained leaves<br>I Survey Data | s)                   |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>Ci<br>High organ<br>aterial?<br>Yes<br>NONE<br>8''  | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur<br>Primary Hydro<br>Saturate                                 | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Condition:<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines  | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, sti<br>Organic streakin<br>Organic streakin<br>Organic pr<br>O<br>econdary Hydrole<br>d Root Channel<br>Water-s<br>Local Soi                                 | re/etc<br>friable<br>icky<br>ng (in sandy soil-<br>an (in sandy soil-<br>n Hydric Soils Li<br>Other:<br>ogy Indicators<br>ls (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test          | s)st                 |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>Ci<br>High organ<br>aterial?<br>Yes<br>NONE<br>8''  | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydra</u><br>Saturate<br>Sed                   | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Conditions<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits                      | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, sti<br>Organic streakin<br>Organic streakin<br>Organic pr<br>O<br>econdary Hydrole<br>d Root Channel<br>Water-s<br>Local Soi                                 | re/etc<br>friable<br>icky<br>ng (in sandy soil:<br>an (in sandy soil:<br>an (in sandy soil:<br>Other:<br>Other:<br>Other:<br>ogy <i>Indicators</i><br>Is (upper 12")<br>tained leaves<br>I Survey Data | s)st                 |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>Ci<br>High organ<br>aterial?<br>Yes<br>NONE<br>8''  | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur<br>Primary Hydro<br>Saturate<br>Sed<br>Dra                   | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Conditions<br>Features (w/in 10"<br>Jles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>ainage patterns   | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, sti<br>Organic streakin<br>Organic streakin<br>Organic pr<br>O<br>econdary Hydrole<br>d Root Channel<br>Water-s<br>Local Soi                                 | re/etc<br>friable<br>icky<br>ng (in sandy soil-<br>an (in sandy soil-<br>n Hydric Soils Li<br>Other:<br>ogy Indicators<br>ls (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test          | s)st                 |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaqi<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>C<br>High organ<br>aterial?<br>Yes<br>NONE<br>8"<br>11"<br>of upper extent                           | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur<br>Primary Hydro<br>Saturate<br>Sed<br>Dra                   | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Conditions<br>Features (w/in 10"<br>Jles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>ainage patterns   | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, sti<br>Organic streakin<br>Organic streakin<br>Organic pr<br>O<br>econdary Hydrole<br>d Root Channel<br>Water-s<br>Local Soi                                 | re/etc<br>friable<br>icky<br>ng (in sandy soil-<br>an (in sandy soil-<br>n Hydric Soils Li<br>Other:<br>ogy Indicators<br>ls (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test          | s)st                 |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>Cr<br>High organ<br>aterial?<br>Yes<br>NONE<br>8"<br>11"<br>of upper extent                           | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur<br>Primary Hydro<br>Saturate<br>Sed<br>Dra<br>of surface por | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Conditions<br>Features (w/in 10"<br>Jles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>ainage patterns   | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, sti<br>Organic streakin<br>Organic streakin<br>Organic pr<br>O<br>econdary Hydrole<br>d Root Channel<br>Water-s<br>Local Soi                                 | re/etc<br>friable<br>icky<br>ng (in sandy soil-<br>an (in sandy soil-<br>n Hydric Soils Li<br>Other:<br>ogy Indicators<br>ls (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test          | s)st                 |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>C<br>High organ<br>aterial?<br>Yes<br>NONE<br>8"<br>11"<br>of upper extent<br>n:<br>on criterion me   | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur<br>Primary Hydro<br>Saturate<br>Sed<br>Dra<br>of surface por | - 10% cover in pl<br>Redox Conc.<br>10 YR 3/1<br>Reducing Conditions<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br>ology Indicators<br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>ainage patterns<br>nding | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, sti<br>Organic streakin<br>Organic streakin<br>Organic pr<br>O<br>econdary Hydrole<br>d Root Channel<br>Water-s<br>Local Soi                                 | re/etc<br>friable<br>icky<br>ng (in sandy soil-<br>an (in sandy soil-<br>n Hydric Soils Li<br>Other:<br>ogy Indicators<br>ls (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test          | s)st                 |
| Remarks:       PSME on well         Soils:  | Delena Silt Loa<br>Humic Fragiaq<br>Matrix Color<br>7.5 YR 3/2<br>7.5 YR 4/4<br>C<br>High organ<br>aterial?<br>Yes<br>NONE<br>8"<br>11"<br>of upper extent<br>on criterion me<br>net? | edge of plot -<br>um, 3-12%<br>uepts<br>F<br>Redox<br>oncretions/Nodu<br>ic content in sur<br>Primary Hydro<br>Saturate<br>Sed<br>Dra<br>of surface por | Aerial photos<br>ology Indicators<br>In upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>ainage patterns<br>nding  | _ Drainage Cla<br>Hydric soil?<br>Redox Desc.<br>many, coarse, p<br>in matrix<br>s X | ass:<br>Yes<br>prominent | Hydric inclusi<br>Texture/Structur<br>Silt loam, sub ab,<br>silty clay loam, sti<br>Organic streakin<br>Organic streakin<br>Organic pr<br>O<br>econdary Hydrole<br>d Root Channel<br>Water-s<br>Local Soi                                 | re/etc<br>friable<br>icky<br>ng (in sandy soil-<br>an (in sandy soil-<br>n Hydric Soils Li<br>Other:<br>ogy Indicators<br>ls (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test          | s)st                 |

Comments: Plot taken just off ATV trail

|  | ······           |                 |                                       | ·                            |                  |                    |                    |                                       |
|--|------------------|-----------------|---------------------------------------|------------------------------|------------------|--------------------|--------------------|---------------------------------------|
| <b>Damascus Natura</b>                 | I Features       | Inventor        | Ъ                                     |                              | WETLAND:         | NO-A-01            |                    |                                       |
| Location:                              | North of Hoffeis | ster Rd, west o | of 242nd                              |                              | Map No:          | D5                 |                    |                                       |
| Cowardin Class:                        |                  | ·····           |                                       |                              | Plot No:         | DP 2               |                    |                                       |
| HGM Class:                             |                  |                 |                                       |                              | WET/UPL:         | UPL                | •                  |                                       |
| Field Investigator(s):                 | ACS/TB           |                 |                                       |                              | Date:            | 3/16/2007          |                    |                                       |
|  |                  |                 | 11 days 000/ -                        |                              | Date.            | 3/10/2007          |                    |                                       |
| Recent Weather:                        |                  | ion in previous | s 14 days, 88% o                      | r average                    |                  |                    |                    |                                       |
| Do normal conditions exis              |                  |                 | Yes                                   |                              |                  |                    |                    |                                       |
| Is the site significantly dist         | urbed?           |                 | No                                    |                              |                  |                    |                    |                                       |
| Is the area a potential prob           | lem area?        |                 | No                                    |                              |                  |                    |                    |                                       |
| Vegetation:                            | Dominant Pla     | at Species      |                                       |                              |                  |                    |                    |                                       |
|  |                  | -               |                                       |                              | · · ·            |                    |                    |                                       |
| Herb Stratum<br>Total cover: 0%        | Ind. status      | % Cover         | % rel. cover                          | Tree Stratun<br>Total cover: | n<br>100%        | Ind. status        | % Cover            | % rel. cover                          |
|  |                  |                 |                                       |                              |                  |                    | 0.00%              | 00.0%                                 |
|  |                  |                 | •                                     | Pseudotsuga                  | menziesii        | FACU               | 90%                | 90.0%                                 |
|  | ·                |                 |                                       | Alnus rubra                  |                  | FAC                | 10%                | 10.0%                                 |
| ······································ |                  |                 | · · · · · · · · · · · · · · · · · · · |                              |                  |                    |                    |                                       |
|  |                  |                 | -                                     | Sapling/ Shr                 | rub Stratum      | Ind. status        | % Cover            | % rel. cover                          |
|  |                  |                 | ·······                               | Total cover:                 | 15%              | ,<br>D             |                    |                                       |
|  |                  |                 |                                       | llex aquifoliu               | m                | UPL.               | 10%                | 66.7%                                 |
|  |                  |                 |                                       | Crataegus m                  | onoavna          | FACU+              | т                  | ·                                     |
|  |                  |                 |                                       |                              | nifera [[sericea |                    | 5%                 | 33.3%                                 |
|  |                  |                 |                                       |                              | iniora Noonooc   |                    |                    |                                       |
| Percent of dominant speci<br>Remarks:  | es that are OBL  | ., FACW, and    | /or FAC :                             |                              | 1                | of                 | 3                  | = 33%                                 |
| Soils:                                 |                  |                 |                                       |                              |                  |                    |                    |                                       |
|  |                  |                 |                                       |                              |                  |                    |                    |                                       |
| Map Unit Name:                         | Delena Silt Loa  | im, 3-12%       |                                       | Drainage Cl                  | ass:             | poorly drained     |                    |                                       |
| Taxonomy:                              | Humic fragiaqu   | iepts           |                                       | Hydric soil?                 | Yes              | Hydric inclusi     | ons?               | Yes                                   |
| Depth Horizon                          | Matrix Color     | ··· ··          | Redox Conc.                           | Redox Desc.                  |                  | Texture/Structu    | re/etc             |                                       |
| 0-16"                                  | 10YR 3/2         |                 |                                       |                              |                  | silt loam, friable |                    |                                       |
|  |                  |                 |                                       |                              |                  |                    |                    |                                       |
| Hýdric soil indicators:                |                  |                 |                                       |                              |                  |                    |                    |                                       |
| Histosol                               |                  | R               | Reducing Conditions                   |                              |                  | Organic streak     | ng (in sandy soils | 2)                                    |
| Hist. Epipedon                         | -                |                 | Features (w/in 10")                   |                              | _                | -                  | an (in sandy soils | · · · · · · · · · · · · · · · · · · · |
| Sulfidic Odor                          | -                |                 | lles (w/in 3"; >2mm)                  |                              | -                |                    | n Hydric Soils Li  |                                       |
| Gley/low chroma                        |                  |                 | face (in sandy soils)                 |                              | -                |                    | Othe               |                                       |
|  | saturation in up |                 | ace (in sandy sons)                   |                              |                  |                    | Out                |                                       |
| No leuox, lio                          | saturation in up |                 |                                       |                              |                  | ~~                 |                    |                                       |
| Hydrology:                             |                  | · · · · · ·     |                                       |                              |                  |                    |                    |                                       |
| Recorded Data Available?               | Yes              |                 | Aerial photos                         | <u>x</u>                     | _Strm. gauge     |                    | Other:             |                                       |
|  |                  | Primary Hydro   | ology Indicators                      |                              | <u>Se</u>        | econdary Hydrol    | ogy Indicators     |                                       |
| Depth of inundation:                   | NONE             |                 | Inundated                             |                              | Oxidize          | d Root Channe      | ls (upper 12'')    |                                       |
| Depth to saturation:                   | 13"              | Saturate        | ed in upper 12"                       |                              | _                | Water-s            | tained leaves      |                                       |
| Depth to free water:                   | 15"              |                 | Water marks                           |                              |                  | Local So           | il Survey Data     |                                       |
| Departo nee water.                     | 10               |                 | Drift lines                           |                              | _                |                    | C-Neutral Test     |                                       |
|  |                  | 0 - 4           |                                       |                              | -                |                    |                    |                                       |
|  |                  |                 | iment deposits                        |                              | -                |                    | Other:             |                                       |
| Dementer                               |                  | Dra             | inage patterns                        |                              | -                |                    |                    |                                       |
| Remarks:                               |                  | ,· · · · ·      |                                       |                              |                  |                    |                    |                                       |
| Wetland Determination                  | on:              |                 |                                       |                              |                  |                    |                    |                                       |
| Is the hydrophytic vegetat             | on criterion me  | et?             | NO                                    |                              |                  |                    |                    |                                       |
| Is the hydric soil criterion           |                  |                 | NO                                    |                              |                  |                    |                    |                                       |
| -                                      |                  |                 |                                       |                              |                  |                    |                    |                                       |
| Is the specific hydrology c            |                  |                 | NO                                    |                              |                  |                    |                    |                                       |
| Is this sampling point with            |                  |                 | NO                                    |                              |                  |                    |                    |                                       |
| Comments: Upland PSM                   | E/ALRU Forest.   | Open charac     | ter - low shrubs o                    | over minimal                 | herb cover ex    | cept at edges; L   | oaded with bird    | ls                                    |
|  |                  |                 |                                       |                              |                  |                    |                    |                                       |

| · · · · · · · · · · · · · · · · · · · |                                       |                    |                                       |                |                  |                 |                            |              |
|---------------------------------------|---------------------------------------|--------------------|---------------------------------------|----------------|------------------|-----------------|----------------------------|--------------|
| Damascus Natura                       | I Features                            | Invento            | <b>`</b> /                            |                | WETLAND:         | NO-A-02         | OFF SITE                   |              |
|                                       |                                       |                    | •                                     |                |                  |                 | OFF SHE                    |              |
| Location:                             | South of Hoffei                       | ster Rd, west      | of 242nd                              |                | Map No:          | D5              |                            |              |
| Cowardin Class:                       | PFO, PEM                              |                    |                                       |                | Plot No:         | OFF SITE        |                            |              |
| HGM Class:                            | S/F                                   |                    |                                       |                | WET/UPL:         | WET             |                            |              |
| Field Investigator(s):                | TB/RR                                 |                    |                                       |                | Date:            | 3/9/2007        |                            |              |
| Recent Weather:                       |                                       |                    |                                       |                |                  |                 |                            |              |
| Do normal conditions exis             | t on the site?                        |                    | Yes                                   |                |                  |                 |                            |              |
| Is the site significantly dis         | turbed?                               |                    | No                                    |                |                  |                 |                            |              |
| Is the area a potential prot          |                                       |                    | No                                    |                |                  |                 |                            |              |
|                                       |                                       |                    | ·                                     |                |                  |                 |                            |              |
| Vegetation:                           | Dominant Pla                          | nt Species         |                                       |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
| Herb Stratum                          | Ind. status                           | % Cover            | % rel. cover                          | Tree Stratun   | า                | Ind. status     | % Cover                    | % rel. cover |
| Total cover: 65%                      | ว                                     |                    |                                       | Total cover:   | 25%              | 0               |                            |              |
| Festuca arundinacea                   | FAC- '                                | 50%                | 76.9%                                 | Fraxinus latif | olia             | FACW            | 10%                        | 40.0%        |
| Juncus effusus                        | FACW                                  | 15%                | 23.1%                                 | Populus bals   | amifera v. tric  | h FAC           | 10%                        | 40.0%        |
|                                       |                                       |                    |                                       | Alnus rubra    |                  | FAC             | 5%                         | 20.0%        |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
|                                       | <b>`</b>                              |                    |                                       |                |                  | · · · · · ·     |                            |              |
|                                       | · · · · · · · · · · · · · · · · · · · |                    |                                       | Sapling/ Shi   | ub Stratum       | Ind. status     | % Cover                    | % rel. cover |
| -                                     |                                       |                    |                                       | Total cover:   | 15%              |                 |                            |              |
|                                       | <b></b>                               | ,                  | ·                                     |                | nifera [[sericea |                 | 15%                        | 100.0%       |
|                                       |                                       | •••••••            | ,                                     | Comus stolo    | mera ll'sence    | a, FACIV        | 1376                       | 100.076      |
|                                       | <u> </u>                              |                    | ·                                     |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
|                                       |                                       | <u> </u>           | · · · · · · · · · · · · · · · · · · · |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
| Percent of dominant speci             | ies that are OBI                      | ., FACW, and       | /or FAC :                             |                | 5                | of              | 6                          | =83%         |
| Remarks:                              |                                       |                    |                                       |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
| Soils:                                |                                       |                    |                                       |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
| Map Unit Name:                        | Delena Silt loa                       | m, 3-12%           |                                       | Drainage Cl    | ass:             | Poorly drained  | k                          |              |
| Taxonomy:                             | Humic Fragiag                         | uepts              |                                       | Hydric soil?   |                  | Hydric inclus   | ions?                      | Yes          |
| Depth Horizon                         | Matrix Color                          |                    | Redox Conc.                           | Redox Desc.    |                  | Texture/Structu |                            |              |
| OFF SITE                              |                                       |                    |                                       | 110000 00001   |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
| Hydric soil indicators:               |                                       | -                  |                                       |                |                  | 0               | da a Gara a a da a a lla i |              |
| Histosol                              |                                       |                    | Reducing Conditions                   |                | -                | -               | ing (in sandy soils        |              |
| Hist. Epipedon                        | -                                     |                    | Features (w/in 10")                   |                | -                |                 | oan (in sandy soils        |              |
| Sulfidic Odor                         |                                       |                    | iles (w/in 3"; >2mm)                  |                |                  | (               | On Hydric Soils Lis        |              |
| Gley/low chroma                       | High organ                            | nic content in sur | face (in sandy soils)                 |                | -                |                 | Othe                       |              |
| Remarks:                              |                                       |                    |                                       |                |                  |                 |                            |              |
| 1111.                                 |                                       |                    |                                       |                |                  |                 | ,                          |              |
| Hydrology:                            |                                       |                    |                                       |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
| Recorded Data Available?              |                                       |                    | Aerial photos                         | X              | _Strm. gauge     |                 | Other:                     | LIDAR        |
|                                       |                                       | Primary Hydro      | ology Indicators                      |                |                  | econdary Hydro  |                            |              |
| Depth of inundation:                  | up to 6"                              |                    | Inundated                             | Х              | Oxidize          | d Root Channe   | els (upper 12")            |              |
| Depth to saturation:                  | 0"                                    | Saturate           | ed in upper 12"                       | X              | -                | Water-          | stained leaves             |              |
| Depth to free water:                  | not sampled                           |                    | Water marks                           |                | -                | Local So        | il Survey Data             | X            |
| -                                     |                                       |                    | Drift lines                           |                | -                |                 | C-Neutral Test             |              |
|                                       |                                       | ha2                | iment deposits                        |                |                  |                 | Other:                     |              |
|                                       |                                       |                    | inage patterns                        | X              | _                |                 | ÷ 11011                    |              |
| Bamarka                               |                                       | ura                | maye patterns                         | <u>^</u>       | <u> </u>         |                 |                            |              |
| Remarks:                              |                                       |                    |                                       |                |                  |                 |                            |              |
| Wetland Determination                 | on:                                   |                    |                                       |                |                  |                 |                            |              |
|                                       |                                       |                    |                                       |                |                  |                 |                            |              |
| Is the hydrophytic vegetat            |                                       | ət?                | YES                                   |                |                  |                 |                            |              |
| Is the hydric soil criterion          | met?                                  |                    | YES                                   |                |                  |                 |                            |              |
| Is the specific hydrology of          | riterion met?                         |                    | YES                                   |                |                  |                 |                            |              |
| Is this sampling point with           |                                       |                    | YES                                   |                |                  |                 |                            |              |
|                                       |                                       | 0.0m 0.00          |                                       |                |                  |                 |                            |              |
| Comments: Boundary sh                 | iows on NVVI app                      | pears accurate     |                                       |                |                  |                 |                            |              |

|  |   | U                |                      |                                     |                   |                                       |                                       |  |
|--|---|------------------|----------------------|-------------------------------------|-------------------|---------------------------------------|---------------------------------------|--|
| Damascus Natura                              | Features  | Inventor         | v                    |                                     | WETLAND:          | NO-A-03                               |                                       |  |
| Location:                                    | North of Hoffm  |                  | •                    |                                     | Map No:           | D6                                    |                                       |  |
| Cowardin Class:                              | PEM, PFO, PC  |                  | UI 272110            | -                                   | Plot No:          | PLOT 1                                |                                       |  |
|  | D6  |                  |                      | -                                   | WET/UPL:          | WET                                   | · · · · · · · · · · · · · · · · · · · |  |
| HGM Class:                                   | ACS/TB/MB   |                  |                      | -                                   |                   | 3/13/2007                             |                                       |  |
| Field Investigator(s):                       | ACS/ I D/IVID   |                  |                      | -                                   | Date:             | 3/13/2007                             |                                       | W2000000000000000000000000000000000000 |
| Recent Weather:<br>Do normal conditions exis | t on the oite?  |                  | Vee                  |                                     |                   |                                       |                                       |  |
|  |   |                  | Yes                  |                                     |                   |                                       |                                       |  |
| Is the site significantly dist               |   |                  | No                   |                                     |                   |                                       |                                       |  |
| Is the area a potential prob                 | liem area (   |                  | No                   |                                     |                   |                                       |                                       |  |
| Vegetation:                                  | Dominant Pla  | nt Species       |                      |                                     |                   |                                       |                                       |  |
| Herb Stratum<br>Total cover: 100%            | Ind. status   | % Cover          | % rel. cover         | <b>Tree Stratum</b><br>Total cover: | <b>ו</b><br>0%    | Ind. status                           | % Cover                               | % rel. cover                           |
| Lotus corniculatus                           | FAC   | 40%              | 40.0%                |                                     |                   |                                       |                                       |  |
| Scirpus microcarpus                          | OBL   | 20%              | * 20.0%              |                                     |                   | · · · · · · · · · · · · · · · · · · · |                                       |  |
| Agropyron [[Elytrigia]] repen                |   | 30%              | * 30.0%              |                                     |                   |                                       |                                       |  |
| Juncus effusus                               | FACW  | 10%              | 10.0%                |                                     | <u></u>           |                                       |                                       |  |
| Suncas enasus                                | 171000  | 1070             | 10.070               |                                     | •                 | · · · · · ·                           |                                       |  |
|  |   |                  | • <u></u>            | Sapling/ Shr<br>Total cover:        | ub Stratum        | Ind. status                           | % Cover                               | % rel. cover                           |
|  |   |                  |                      | Spiraea doug                        |                   | FACW                                  | 5%                                    | 100.0%                                 |
|  |   |                  |                      | <u>opnicou doug</u>                 |                   |                                       |                                       |  |
|  |   |                  | •                    |                                     |                   |                                       |                                       |  |
|  |   |                  |                      |                                     |                   |                                       |                                       | -                                      |
|  |   |                  |                      |                                     |                   |                                       |                                       |  |
| Percent of dominant speci                    | es that are OBI   | _, FACW, and     | /or FAC :            |                                     | 3                 | of                                    | 4                                     | - 75%                                  |
| Remarks:                                     |   |                  |                      |                                     |                   |                                       |                                       |  |
| Soils:                                       |   |                  |                      |                                     |                   |                                       |                                       |  |
| Map Unit Name:                               | Delena silt loai  | m, 3-12%         |                      | Drainage Cla                        | ass:              | poorly drained                        |                                       |  |
| Taxonomy:                                    | Humic fragiaqu  | lept             |                      | -Hydric soil?                       | Yes               | Hydric inclus                         | ions?                                 | Yes                                    |
| Depth Horizon                                | Matrix Color  |                  | Redox Conc.          | Redox Desc.                         |                   | Texture/Structu                       | ire/etc                               |  |
| 0-8"   | 7.5 YR 3/1  |                  | 5 YR 3/6 many,       | 7-5 YR 6/1 few                      | , med, dist, mati | i> silt loam                          |                                       |  |
|  |   |                  | med, prom, pore      | es, ped faces, ma                   | tirx              |                                       |                                       |  |
| 8-16"  | 2.5 YR 4/2  |                  | 7.5 YR 3/4 many      | , med, prom, roo                    | ot channels (old) | silty clay loam                       |                                       |  |
| Hydric soil indicators:                      |   |                  |                      |                                     |                   |                                       |                                       |  |
| Histosol                                     | -   | F                | Reducing Condition   | s                                   | _                 | -                                     | ing (in sandy soils)                  |  |
| Hist. Epipedon                               | -   |                  | Features (w/in 10"   | ·                                   | -                 | • •                                   | oan (in sandy soils)                  |  |
| Sulfidic Odor                                |   |                  | ıles (w/in 3"; >2mm  | ·                                   | -                 | C                                     | On Hydric Soils Lis                   |  |
| Gley/low chroma X                            | -   |                  | face (in sandy soils |                                     | -                 |                                       | Othe                                  |  |
| Remarks: Meets hyrdrid                       | c criteria 3 or 4 (   | ponded or floc   | ded for long dur     | ation)                              |                   | · · · · · · · · · · · · · · · · · · · |                                       |  |
| Hydrology:                                   |   |                  |                      |                                     |                   |                                       |                                       |  |
| Recorded Data Available?                     | Yes   |                  | Aerial photos        | x                                   | _Strm. gauge      |                                       | Other:                                | LIDAR                                  |
|  |   | Primary Hydro    | ology Indicators     |                                     |                   | econdary Hydro                        |                                       |  |
| Depth of inundation:                         | NONE  |                  | Inundated            |                                     | _ Oxidize         | d Root Channe                         |                                       |  |
| Depth to saturation:                         | 16"   | Saturate         | ed in upper 12"      | -                                   |                   |                                       | stained leaves                        | X                                      |
| Depth to free water:                         | >16"  |                  | Water marks          | X                                   |                   |                                       | il Survey Data                        |  |
|  |   |                  | Drift lines          | х                                   |                   | FAG                                   | C-Neutral Test                        |  |
|  |   | Sed              | iment deposits       |                                     | _                 |                                       | Other:                                | algal mats                             |
|  |   | Dra              | inage patterns       | Х                                   |                   |                                       |                                       |  |
| Remarks: Recent altera                       | ation to impound  | ment has drop    | pped water >12"      |                                     |                   |                                       |                                       |  |
| Wetland Determination                        | on:   |                  |                      |                                     |                   |                                       |                                       |  |
|  |   |                  |                      |                                     |                   |                                       |                                       |  |
| Is the hydrophytic vegetat                   |   | ət?              | YES                  |                                     |                   |                                       |                                       |  |
| Is the hydric soil criterion                 |   |                  | YES                  |                                     |                   |                                       |                                       |  |
| Is the specific hydrology c                  |   |                  | YES                  |                                     |                   |                                       |                                       |  |
| Is this sampling point with                  | nin a wetland?  |                  | YES                  |                                     |                   |                                       |                                       |  |
|  | and the second se |                  | r in the future if p |                                     |                   | d conditions act                      | ually strengthen                      |  |
| unslope of th                                | is plot with W/T  | climbing to $<1$ | 0" before droppi     | ing near top of                     | terrace           |                                       |                                       |  |

|   |                  | Wet                                   | land Determi                          | nation Data                         | Form                |                                       |                                       |   |
|---|------------------|---------------------------------------|---------------------------------------|-------------------------------------|---------------------|---------------------------------------|---------------------------------------|---|
| Damascus Natura                                 | I Features       |                                       | •                                     |                                     | WETLAND:<br>Map No: | NO-A-O3<br>D6                         |                                       | ······································  |
| Cowardin Class:                                 |                  |                                       |                                       | -                                   | Plot No:            | DP 2                                  |                                       |   |
| HGM Class:                                      |                  | · · · · · · · · · · · · · · · · · · · |                                       | -                                   | WET/UPL:            | UPL                                   | · · · · · · · · · · · · · · · · · · · |   |
| Field Investigator(s):                          | ACS/TB/MB        |                                       |                                       | -                                   | Date:               | 3/13/2007                             |                                       |   |
| Recent Weather:                                 | 2.01" of rain in | last 14 days:                         | 99% of normal                         | -                                   |                     |                                       |                                       | · · · · · · · · · · · · · · · · · · ·   |
| Do normal conditions exis                       |                  |                                       | Yes                                   |                                     |                     |                                       |                                       |   |
| Is the site significantly dis                   |                  |                                       | No                                    |                                     |                     |                                       |                                       |   |
| Is the area a potential prot                    |                  |                                       | No                                    |                                     |                     |                                       |                                       |   |
| Vegetation:                                     | Dominant Pla     | nt Species                            | · · · · · · · · · · · · · · · · · · · |                                     |                     |                                       |                                       |   |
| Herb Stratum<br>Total cover: 100%               | Ind. status      | % Cover                               | % rel. cover                          | <b>Tree Stratum</b><br>Total cover: | 0%                  | Ind. status                           | % Cover                               | % rel. cover                            |
| Agrostis tenuis [[capillaris]]                  | FAC              | 10%                                   | 10.0%                                 |                                     |                     |                                       |                                       |   |
| Holcus lanatus                                  | FAC              | 10%                                   | 10.0%                                 |                                     |                     | <u> </u>                              | <u></u>                               |   |
| Lotus corniculatus                              | FAC              | 20%                                   | * 20.0%                               |                                     |                     |                                       |                                       |   |
| Anthoxanthum odoratum                           | FACU             | 60%                                   | * 60.0%                               |                                     |                     |                                       |                                       | • |
| Cirsium arvense                                 | FACU+            | Т                                     |                                       |                                     |                     | · · · · · · · · · · · · · · · · · · · |                                       | • • • • • • • • •                       |
| ·····   |                  |                                       |                                       | Sapling/ Shr                        | ub Stratum<br>65%   | Ind. status                           | % Cover                               | % rel. cover                            |
| N   |                  |                                       |                                       | Rubus discolo                       | or IR. armenia      | K FACU                                | 60%                                   | 92.3%                                   |
|   |                  |                                       |                                       | Crataegus mo                        | -                   | FACU+                                 | 5%                                    | 7.7%                                    |
|   |                  |                                       |                                       |                                     | <u> </u>            | <del>.</del>                          |                                       |   |
| Percent of dominant speci<br>Remarks:<br>Soils: | es that are OB   | L, FACW, and                          | l/or FAC :                            |                                     | 1                   | of                                    | 3                                     | =33%                                    |
|   | Delene eilt lee  | - 2 120/                              |                                       | Desinens Cla                        |                     |                                       |                                       |   |
| Map Unit Name:                                  | Delena silt loa  |                                       |                                       | Drainage Cla                        |                     | poorly drained                        |                                       | Vee                                     |
| Taxonomy:                                       | Humic fragiaque  | uepts                                 | Daday Cana                            | Hydric soil?                        | Yes                 | Hydric inclusi<br>Texture/Structur    |                                       | Yes                                     |
| Depth Horizon                                   | 7.5 YR 3/1       |                                       | Redox Conc.                           | Redox Desc.                         |                     |                                       | re/etc                                |   |
| 10-16"  | 10 YR 4/2        |                                       |                                       |                                     |                     | silty loam                            |                                       |   |
|   | 10 TR 4/2        |                                       |                                       |                                     |                     | loose siit loam                       |                                       |   |
| Hydric soil indicators:<br>Histosol             | _                | F                                     | Reducing Conditions                   | 5                                   |                     | Organic streaki                       | ng (in sandy soil                     | s)                                      |
| Hist. Epipedon                                  | -                |                                       | . Features (w/in 10"                  |                                     | -                   |                                       | an (in sandy soil                     | · · · · · · · · · · · · · · · · · · ·   |
| Sulfidic Odor                                   |                  |                                       | ules (w/in 3"; >2mm                   |                                     | -                   | 0                                     | n Hydric Soils Li                     |   |
| Gley/low chroma X                               | - High organ     | ne content in sur                     | face (in sandy soils                  | )                                   | -                   |                                       | Oth                                   | er                                      |
| Remarks:  |                  |                                       |                                       |                                     |                     |                                       |                                       |   |
| Hydrology:                                      |                  |                                       |                                       |                                     |                     |                                       |                                       |   |
| Recorded Data Available?                        | Yes              |                                       | Aerial photos                         | x                                   | Strm. gauge         |                                       | Other:                                |   |
|   |                  | Primary Hydro                         | ology Indicators                      |                                     | -<br><u>S</u>       | econdary Hydrol                       | ogy Indicators                        |   |
| Depth of inundation:                            | NONE             |                                       | Inundated                             |                                     | Oxidize             | d Root Channe                         | ls (upper 12")                        | L                                       |
| Depth to saturation:                            | 10"              | Saturate                              | ed in upper 12"                       | x                                   | •                   | Water-s                               | tained leaves                         |   |
| Depth to free water:                            | 14"              |                                       | Water marks                           |                                     | •                   | Local Soi                             | I Survey Data                         |   |
|   |                  |                                       | Drift lines                           |                                     | -                   | FAC                                   | C-Neutral Test                        | ·                                       |
|   |                  | Sed                                   | iment deposits                        |                                     | -                   |                                       | Other:                                |   |

#### Wetland Determination:

Remarks:

| Wetianu D       |                                       |                       |  |
|-----------------|---------------------------------------|-----------------------|--|
| Is the hydrop   | hytic vegetation criterion met?       | NO                    |  |
| Is the hydric   | soil criterion met?                   | YES                   |  |
| Is the specific | c hydrology criterion met?            | YES                   |  |
| Is this sampli  | ng point within a wetland?            | NO                    |  |
| Comments:       | Vegetation not supportive, appears wa | iter table perched. N | ear boundary defined by depth to saturation/water table, |
|                 | slight changes in dominant vegetation | proportions, compos   | ition  |

Drainage patterns

| Damascus Natura<br>Location:<br>Cowardin Class:   | I Features<br>North of Hwy. 2<br>PFO |  | •   |   | WETLAND:<br>Map No:<br>Plot No: | NO-A-04<br>E5<br>OFF SITE | OFF SITE                                   |              |
|---|--------------------------------------|--|---|---|---------------------------------|---------------------------|--|--------------|
|   |                                      | · · · · ·                              |   | -   |                                 |                           |  |              |
| HGM Class:  | RFT                                  |  |   | -   | WET/UPL:                        | YES                       |  |              |
| Field Investigator(s):                            | ACS/TB                               |  |   | -   | Date:                           | 4/4/2007                  |  |              |
| Recent Weather:                                   | 3.26" precipitat                     | tion in previous                       | s 14 days, 69% a                          | bove avg.   |                                 |                           |  |              |
| Do normal conditions exist                        | t on the site?                       |  | Yes                                       |   |                                 |                           |  |              |
| Is the site significantly dist                    | urbed?                               |  | No  |   | •                               |                           |  |              |
| Is the area a potential prob                      | lem area?                            |  | No  |   |                                 |                           |  |              |
|   |                                      |  |   |   |                                 |                           |  |              |
| Vegetation:                                       | Dominant Pla                         | nt Species                             |   |   |                                 |                           |  |              |
| Herb Stratum<br>Total cover: 50%                  | Ind. status                          | % Cover                                | % rel. cover                              | Tree Stratum<br>Total cover:  | 85%                             |                           | % Cover                                    | % rel. cover |
| Veratrum californicum                             | FACW+                                | ʻ <u>15%</u>                           | 30.0%                                     | Populus balsa   | amifera v. tric                 | h FAC                     | 5%   | 5.9%         |
| Carex obnupta                                     | OBL                                  | 5%                                     | 10.0%                                     | Fraxinus latife   | olia                            | FACW                      | 80%  | 94.1%        |
| Ranunculus repens                                 | FACW                                 | 20%                                    | * 40.0%                                   |   |                                 |                           |  |              |
| Juncus effusus                                    | FACW                                 | 5%                                     | 10.0%                                     |   |                                 | ······                    |  |              |
| Veronica americana                                | OBL                                  | 5%                                     | 10.0%                                     |   | 4                               |                           |  |              |
|   |                                      | ************************************** | 10.070                                    | Conling/ Chr  | ush Chrotum                     | Ind status                |  | 0/ rol oover |
| Glyceria sp.                                      | OBL                                  | <u> </u>                               | · ······                                  | Sapling/ Shr  |                                 | Ind. status               | % Cover                                    | % rel. cover |
| Cardamine oligosperma                             | FAC                                  | T                                      |   | Total cover:  | 20%                             |                           |  |              |
|   |                                      |  |   | Spiraea doug  | ılasii                          | FACW                      | 10%  | 50.0%        |
|   |                                      |  |   | Rosa pisocar  | ра                              | FAC                       | 10%  | 50.0%        |
|   |                                      |  |   |   |                                 |                           |  |              |
|   |                                      |  |   |   |                                 |                           |  |              |
|   |                                      | -                                      |   |   |                                 |                           | <u>,</u>                                   |              |
| Percent of dominant speci<br>Remarks: Rubus arm / | es that are OBI<br>R. lac, Doug Fir  |  |   |   | 5                               | _ of                      | 5  | =100%        |
| Soils:  |                                      |  |   |   |                                 |                           |  |              |
|   |                                      |  |   |   |                                 |                           |  |              |
| Map Unit Name:                                    | Delena silt loa                      | m, 3-12%                               |   | Drainage Cla  | ass:                            | poorly drained            |  |              |
| Taxonomy:   | Humic fragiaqu                       | Jepts                                  |   | Hydric soil?  | Yes                             | Hydric inclusi            | ons?                                       | Yes          |
| Depth Horizon                                     | Matrix Color                         |  | Redox Conc.                               | Redox Desc.   |                                 | Texture/Structu           | re/etc                                     |              |
| damadaay yayay ay ahaa ahaa ahaa ahaa ahaa        |                                      |  |   |   |                                 |                           |  |              |
|   |                                      |  |   |   |                                 |                           |  |              |
| Hydric soil indicators:                           |                                      | · · · · · · · · · · · · · · · · · · ·  |   |   |                                 |                           |  |              |
|   |                                      |  | Indusing Conditions                       | v   |                                 | Organia atroaki           | na (in condu coile)                        | <b>`</b>     |
| Histosol  | -                                    |  | educing Conditions<br>["Features (w/in 10 |   | -                               |                           | ng (in sandy soils)<br>an (in sandy soils) |              |
| Sulfidic Odor                                     | -                                    |  | lles (w/in 3"; >2mm)                      |   | -                               |                           | n Hydric Soils Lis                         |              |
| Gley/low chroma                                   |                                      |  | face (in sandy soils)                     |   | -                               | 0                         | Othe                                       |              |
|   |                                      |  |   | and the second se |                                 |                           | Other                                      |              |
| Remarks: Surface pond                             | ing is likely pres                   | sent from com                          | encement of rain                          | y season well   | into growing s                  | season                    |  |              |
| Hydrology:  |                                      |  |   |   |                                 |                           |  |              |
| Recorded Data Available?                          | Yes                                  |  | Aerial photos                             | <u>x</u>  | _Strm. gauge                    |                           | Other:                                     |              |
|   |                                      | Primary Hydro                          | ology Indicators                          |   |                                 | econdary Hydrol           |  |              |
| Depth of inundation:                              |                                      |  | Inundated                                 | Х   | Oxidize                         | d Root Channe             | ls (upper 12")                             |              |
| Depth to saturation:                              |                                      | Saturate                               | d in upper 12"                            | X   | -                               | Water-s                   | tained leaves                              |              |
| Depth to free water:                              |                                      |  | Water marks                               |   | -                               | Local Soi                 | I Survey Data                              | X            |
|   | ·····                                |  | Drift lines                               |   | -                               |                           | -Neutral Test                              |              |
|   |                                      | Sadi                                   |   | <b></b>   | -                               |                           | Other:                                     |              |
|   |                                      |  | iment deposits                            | <u></u>   | -                               |                           | Other.                                     |              |
|   |                                      |  | inage patterns                            | <u>X</u>  | -                               |                           |  |              |
| Remarks: Observed flow                            | wing water; hea                      | dwater of Noye                         | er Creek                                  |   |                                 | <u></u>                   |  |              |
| Wetland Determination                             | on:                                  |  |   |   |                                 |                           |  |              |
| Is the hydrophytic vegetati                       | on criterion m                       | et?                                    | YES                                       |   |                                 |                           |  |              |
| Is the hydric soil criterion                      |                                      |  | YES                                       |   |                                 |                           |  |              |
| -   |                                      |  |   |   |                                 |                           |  |              |
| Is the specific hydrology c                       |                                      |  | YES                                       |   |                                 |                           |  |              |
| Is this sampling point with                       | in a wetland?                        |  | YES                                       |   |                                 |                           |  |              |
| Comments:   |                                      |  |   |   |                                 |                           |  |              |
|   |                                      |  |   |   |                                 |                           |  |              |

| Damascus Natura<br>Location:<br>Cowardin Class:<br>HGM Class:<br>Field Investigator(s):<br>Recent Weather:<br>Do normal conditions exist<br>Is the site significantly dist<br>Is the area a potential prob | East of Tong Re<br>PEM<br>RFT<br>ACS/TB<br>3.26" rain in las<br>on the site?<br>urbed? | d., south of Ke                                   | ller Rd.   |  | WETLAND:<br>Map No:<br>Plot No:<br>WET/UPL:<br>Date: | RI-A-01<br>F2<br>OFF SITE<br>WET<br>4/4/2007       | OFF SITE   |               |
|--|--|---|--|--|--|--|--|---------------|
| Vegetation:  | Dominant Plar  | nt Species  |  |  |  | ······   |  |               |
| Herb Stratum<br>Total cover: 95%<br>Unidentified grass   | Ind. status  | % Cover<br>95%                                    | % rel. cover   | Tree Stratum<br>Total cover:                 | 0%   | Ind. status  | % Cover  | % rel. cover  |
|  |  |   | ······································   | Sapling/ Shr<br>Total cover:<br>Rosa pisocar | 5%   | Ind. status  | % Cover  | % rel. cover  |
| Percent of dominant speci<br>Remarks: <u>Rose domina</u><br>with Carex/Ju Juncus prese<br>Soils:   | nt on edges only   |   | or FAC :<br>nant in big patch  | es at edge/out                               | 2<br>side of W/L; C                                  | of<br>Grasses likely Pr                            | 2<br>ba / Agr blend  | = 100%        |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>Off Site   | Bornstedt silt lo<br>Typic Haploxer<br>Matrix Color                                    | alfs  | Redox Conc.  | Drainage Cla<br>Hydric soil?<br>Redox Desc.  | ass:<br>No   | Mderately well<br>Hydric inclus<br>Texture/Structu | ions?  | Yes           |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: Soil survey n  | High organi  | Redox.<br>oncretions/Nodul<br>ic content in surfa | educing Conditions<br>Features (w/in 10")<br>es (w/in 3"; >2mm)<br>ace (in sandy soils)<br>spot." Likely hyd |  | -  | Organic p  | ing (in sandy soils)<br>an (in sandy soils)<br>on Hydric Soils List<br>Other   |               |
| Hydrology:   |  |   |  |  |  |  |  |               |
| Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:   |  | Saturateo<br>Sedir<br>Drai                        | • •  | x<br>x<br>x                                  | Oxidized   | Local So<br>FAC                                    | ls (upper 12")<br>stained leaves<br>il Survey Data<br>C-Neutral Test<br>Other: |               |
| Remarks: <u>Algal mats; C</u><br>Wetland Determination   | ——————   | water in drain                                    | age patterns; W  | hole area likel                              | y has saturatio                                      | on to surface or                                   | shallow inundat  | ion in spring |
| Is the hydrophytic vegetati<br>Is the hydric soil criterion<br>Is the specific hydrology c<br>Is this sampling point with<br>Comments:   | on criterion me<br>met?<br>riterion met?   | t?  | YES<br>YES<br>YES<br>YES   |  |  |  |  |               |

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| Cowardin Class:<br>HGM Class:<br>Field Investigator(s):<br>Recent Weather:<br>Do normal conditions exist<br>Is the site significantly dist<br>Is the area a potential prob | North of Sunnys<br>PEM<br>S/F<br>ACS/TB/RR<br>2.58" of rain in<br>on the site?<br>urbed?<br>lem area? | side, west of F                                   |   | al  | WETLAND:<br>Map No:<br>Plot No:<br>WET/UPL:<br>Date: | RI-C-01<br>E3<br>OFF SITE<br>WET<br>3/9/2007        | OFF SITE  |                                       |
|--|---|---|---|---|--|---|---|---------------------------------------|
| Vegetation:  | Dominant Plar   | -   | <b>.</b>  |   | • · · ·  |   | • · ·   |                                       |
| Herb StratumTotal cover:75%  | Ind. status   | % Cover   | % rel. cover  | Tree Stratum<br>Total cover:                | 1<br>3%  |   | % Cover   | % rel. cover                          |
| Phalaris arundinacea<br>Juncus effusus<br>Scirpus microcarpus  | FACW '<br>FACW OBL  | 70%<br>5%<br>T                                    | 93.3%<br>6.7%   | Fraxinus latifo                             | olia   | FACW  | <u> </u>  | 100.0%                                |
|  | ·   |   |   | Sapling/ Shr<br>Total cover:                | ub Stratum<br>5%                                     | Ind. status   | % Cover   | % rel. cover                          |
|  |   |   |   | Spiraea doug                                | nifera [[sericea<br>Iasii<br>or [R. armenia          | FACW  | 5%<br>T<br>T  | 100.0%                                |
| Percent of dominant specie<br>Remarks: Visual cover e  | es that are OBL<br>estimated from 2   |   |   |   | 3  | _ of  | 3   | 100%                                  |
| Soils:   |   |   |   |   |  |   |   |                                       |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon   | Borges silty cla<br>Typic humaque<br>Matrix Color   | pts   | Redox Conc.   | Drainage Cla<br>Hydric soil?<br>Redox Desc. | ass:<br>Yes  | poorly drained<br>Hydric inclusi<br>Texture/Structu |   | Yes                                   |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: Wetland is wi  |   | Redox.<br>oncretions/Nodul<br>ic content in surfa | educing Conditions<br>Features (w/in 10")<br>es (w/in 3"; >2mm)<br>ace (in sandy soils)       |   | -  | Organic p   | ing (in sandy soils)<br>an (in sandy soils)<br>n Hydric Soils List<br>Other | x                                     |
| Hydrology:   | ·   |   |   |   |  |   |   | · · · · · · · · · · · · · · · · · · · |
| Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:   | Yes<br>ponded areas<br>to surface<br>not sampled  | Saturate<br>Sedir                                 | logy Indicators<br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits | x<br><br><br>x                              |  | Local Soi   |   | LIDAR<br>                             |
| Remarks: Saturation to   | surface in visible  |   |   |   | -  |   |   |                                       |
| Wetland Determinatio   | n:  |   |   |   |  |   |   |                                       |
| Is the hydrophytic vegetation<br>Is the hydric soil criterion of<br>Is the specific hydrology of<br>Is this sampling point with<br>Comments: Soils assume                  | net?<br>riterion met?   |   | YES<br>YES<br>YES<br>YES  |   |  |   |   |                                       |

|  |  |                |  |  |                 | ~~~  |   |              |
|--|--|----------------|--|--|-----------------|--|---|--------------|
| Damascus Natura  | Eosturos   | Invontor       | ~/   |  | WETLAND.        |  |   |              |
|  |  |                | •  |  | WETLAND:        | RI-C-02  | OFF SITE  |              |
| Location:  | North of Hwy 2                                   | 12 near Red L  | Dirt Ln.   | -  | Map No:         | E3   |   |              |
| Cowardin Class:  | PFO/PSS  |                |  | -  | Plot No:        | OFF SITE   |   |              |
| HGM Class:   | RFT/S  |                |  | _  | WET/UPL:        | WET  |   |              |
| Field Investigator(s):   | ACS/TB/RR  |                |  | _  | Date:           | 3/9/2007   |   |              |
| Recent Weather:  | 2.58" of rain in                                 | past 14 days;  | 17% above norn   | nal  |                 |  |   |              |
| Do normal conditions exis  |  |                | Yes  |  |                 |  | ······································                                    |              |
| Is the site significantly dis  | turbed?  |                | No   |  |                 |  |   |              |
| Is the area a potential prob   |  |                | No   |  |                 |  |   |              |
| is the area a potential pro-   |  |                |  |  |                 |  |   |              |
| Vegetation:  | Dominant Pla                                     | nt Species     | •  |  |                 |  |   |              |
| Herb Stratum   | Ind. status                                      | % Cover        | % rel. cover   | Tree Stratun                               |                 | Ind. status  | % Cover   | % rel. cover |
| Total cover: 100%  | )  |                |  | Total cover:                               | 80%             | ,<br>D   |   |              |
| Carex obnupta  | OBL '  | 80%            | 80.0%  | Fraxinus latif                             | olia            | FACW   | 40%   | 50.0%        |
| Phalaris arundinacea   | FACW   | 20%            | * 20.0%  | Salix babylor                              | nica            | FAC+   | 40%   | 50.0%        |
| ·  |  |                |  |  |                 |  |   | <u></u>      |
|  |  |                | ·  | Sapling/ Shi                               | ub Stratum      | Ind. status  | % Cover   | % rel. cover |
|  |  |                |  | Total cover:                               | 35%             |  |   |              |
|  | <u></u>  |                |  |  | nifera [[serice |  | 30%   | 85.7%        |
|  |  |                |  |  | or [R. armenia  |  | 5%  | 14.3%        |
|  |  |                |  | 110003 013001                              | or frv. annonie |  |   | 14.070       |
|  |  |                |  |  | ,               |  |   |              |
| Demonstra 6 demonstra en est   |  |                |  |  | E               |  | F   | = 100%       |
| Percent of dominant speci<br>Remarks: PSME, THPI   |  |                | or FAC :<br>dominant in adjad  |  | 5               | of   | 5   |              |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon   | Borges silty cla<br>Typic Humaqu<br>Matrix Color |                | Redox Conc.  | Drainage Cl<br>Hydric soil?<br>Redox Desc. |                 | poorly drained<br>Hydric inclus<br>Texture/Structu   |   | Yes          |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma  |  | Redox.         | Reducing Conditions<br>Features (w/in 10"<br>Iles (w/in 3"; >2mm<br>face (in sandy soils | )  |                 | Organic p  | ing (in sandy soils<br>pan (in sandy soils<br>on Hydric Soils Lis<br>Othe | )<br>t X     |
| Remarks: Mapped hyd  | ric; Possible har                                | dpan supportir | ng groundwater   |  |                 |  |   |              |
| Hydrology:   |  |                |  |  |                 |  |   |              |
| Recorded Data Available?   | Yes  |                | Aerial photos  | x  | _Strm. gauge    | Contraction of the local division of the loc | Other:  |              |
| <b>_</b>   |  | Primary Hydro  | ology Indicators   |  |                 | econdary Hydroi  |   |              |
| Depth of inundation:   | None visible                                     |                | Inundated  |  | Oxidize         | d Root Channe  |   | •            |
| Depth to saturation:   | 0" assumed                                       | Saturate       | ed in upper 12"  | Х  | _               | Water-s  | stained leaves  |              |
| Depth to free water:   | Not sampled                                      |                | Water marks  |  |                 | Local So   | il Survey Data  |              |
|  |  |                | Drift lines  |  | -               | FAC  | C-Neutral Test  |              |
|  |  | Sed            | iment deposits   |  | -               |  | Other:  |              |
|  |  |                | inage patterns   | X  |                 |  |   | <u> </u>     |
| Remarks: Hyrdric source  | ce is combo of s                                 |                | und/surface flow   |  | higher aroun    | d. Stream is prin  | nary source.  |              |
| Wetland Determination  |  | <u></u>        |  |  |                 |  |   |              |
|  |  |                | ,<br>, , , , , , , , , , , , , , , , , , ,   |  |                 |  |   |              |
| Is the hydrophytic vegetat<br>Is the hydric soil criterion<br>Is the specific hydrology of | met?   | ət?            | YES<br>YES<br>YES  |  |                 |  |   |              |
| Is this sampling point with  | nin a wetland?                                   |                | YES  |  |                 |  |   |              |
| Comments: Boundary fol   | lows edge of car                                 | rex obnupta ar | nd topo breaks (i  | n visible areas                            | )               |  |   |              |

| Damascus Natura<br>Location:<br>Cowardin Class: | I Features<br>West of Wiese<br>PEM/PSS |                     | •  |                              | WETLAND:<br>Map No:<br>Plot No: | RI-D-O1<br>E3<br>OFF SITE | OFF SITE                              |                                       |
|---|--|---------------------|--|------------------------------|---------------------------------|---------------------------|---------------------------------------|---------------------------------------|
| HGM Class:                                      | RFT                                    |                     |  |                              | WET/UPL:                        | WET                       |                                       | · · · · · · · · · · · · · · · · · · · |
| Field Investigator(s):                          | ACS/TB                                 |                     |  |                              | Date:                           | 3/21/2007                 |                                       |                                       |
| Recent Weather:                                 | 1.46" of rain in                       | last 14 days; 7     | 4% of average                              | •                            |                                 |                           |                                       |                                       |
| Do normal conditions exist                      | on the site?                           |                     | Yes  |                              |                                 |                           |                                       |                                       |
| Is the site significantly dist                  | urbed?                                 |                     | No   |                              |                                 |                           |                                       |                                       |
| Is the area a potential prob                    | lem area?                              |                     | No   |                              |                                 |                           |                                       |                                       |
| Vegetation:                                     | Dominant Pla                           | nt Species          |  |                              |                                 |                           |                                       |                                       |
| Herb Stratum<br>Total cover: 100%               | Ind. status                            | % Cover             | % rel. cover                               | Tree Stratum<br>Total cover: | <b>1</b><br>20%                 | Ind. status               | % Cover                               | % rel. cover                          |
| Unident. Grass, prob agr/poa                    | FAC-FACW                               | 90%                 | 90.0%                                      | Alnus rubra                  |                                 | FAC                       | 20%                                   | 100.0%                                |
| Carex obnupta                                   | OBL                                    | 5%                  | 5.0%                                       |                              |                                 |                           |                                       |                                       |
| Dipsacus sylvestris [[fullosur                  | FAC                                    | 5%                  | 5.0%                                       |                              |                                 |                           |                                       |                                       |
|   |  |                     |  | Sapling/ Shr<br>Total cover: | ub Stratum<br>5%                | Ind. status               | % Cover                               | % rel. cover                          |
|   |  |                     |  |                              |                                 | •<br>FAC+                 | E0/                                   | 100.0%                                |
|   |  |                     | ••••••                                     | Rubus specta                 | IDIIIS                          |                           | 5%                                    | 100.0%                                |
|   |  |                     |  |                              |                                 |                           | · · · · · · · · · · · · · · · · · · · |                                       |
|   | <u> </u>                               | <u> </u>            |  |                              |                                 |                           | ·                                     |                                       |
| Percent of dominant specie                      |  |                     |  |                              | 3                               | of                        | 3                                     | 100%                                  |
| Remarks: Adjacent upla                          | and has ACMA,                          | ALRU, SARA,         | RUDI, some PS                              | ME, OECE, P                  | OMU; Most sn                    | hading from adja          | acent section                         |                                       |
|   |  |                     |  |                              |                                 |                           |                                       |                                       |
| Map Unit Name:                                  | Delena Silt Loa                        | am, 3-12%           |  | Drainage Cla                 | ass:                            | poorly drained            | 1                                     |                                       |
| Taxonomy:                                       | Humic Fragiaq                          | uepts               |  | Hydric soil?                 | Yes                             | Hydric inclus             | ions?                                 | Yes                                   |
| Depth Horizon                                   | Matrix Color                           |                     | Redox Conc.                                | Redox Desc.                  |                                 | Texture/Structu           | ire/etc                               |                                       |
| <u></u>   |  |                     |  |                              |                                 |                           |                                       |                                       |
| Hydric soil indicators:                         |  |                     |  |                              |                                 |                           |                                       |                                       |
| Histosol  | _                                      |                     | educing Conditions                         |                              | _                               |                           | king (in sandy soils)                 |                                       |
| Hist. Epipedon                                  | -                                      |                     | Features (w/in 10")                        |                              | _<br>_                          |                           | pan (in sandy soils)                  |                                       |
| Sulfidic Odor<br>Gley/low chroma                | -                                      |                     | es (w/in 3"; >2mm)<br>ace (in sandy soils) |                              | -                               | (                         | On Hydric Soils List<br>Other         |                                       |
| Remarks:  | - High organ                           | iic content in sund | ace (in sanuy sons)                        |                              | -                               |                           | Other                                 |                                       |
| Hydrology:                                      |  |                     |  |                              | <del></del>                     |                           |                                       |                                       |
| Recorded Data Available?                        | Yes                                    |                     | Aerial photos                              | x                            | Strm. gauge                     |                           | Other:                                |                                       |
|   |  | Primary Hydro       | •  | <u>~`</u>                    |                                 | econdary Hydro            |                                       |                                       |
| Depth of inundation:                            | stream                                 |                     | Inundated                                  |                              | Oxidize                         | d Root Channe             | els (upper 12'')                      |                                       |
| Depth to saturation:                            | not sampled                            | Saturate            | d in upper 12"                             |                              | _                               |                           | stained leaves                        |                                       |
| Depth to free water:                            | not sampled                            |                     | Water marks                                |                              | _                               |                           | il Survey Data                        |                                       |
|   |  |                     | Drift lines                                | <u>×</u>                     | -                               | FA                        | C-Neutral Test                        |                                       |
|   |  |                     | ment deposits                              |                              | _                               |                           | Other:                                |                                       |
| Domestro Mensuer 1                              |  |                     | nage patterns                              |                              |                                 | ا                         |                                       | dor                                   |
| Alder Springs                                   | . Hydrology is i                       |                     | w in rainy seaso                           | 1. Stream bott               | om nas grave                    | IS DUT NEAVILY SI         | Ited. 18" CMP ur                      |                                       |
| Wetland Determinatio                            | 911 <b>:</b>                           |                     |  |                              |                                 |                           |                                       |                                       |
| Is the hydrophytic vegetati                     | on criterion me                        | et?                 | YES  |                              |                                 |                           |                                       |                                       |
| Is the hydric soil criterion i                  |  |                     | YES  |                              |                                 |                           |                                       |                                       |
| Is the specific hydrology c                     |  |                     | YES  |                              |                                 |                           |                                       |                                       |
| Is this sampling point with                     | in a wetland?                          |                     | YES  |                              |                                 |                           |                                       |                                       |
| Comments: Boundary foll                         | ows topo breaks                        | s, transition to u  | upland vegetatio                           | n (PSME, RUI                 | DI, OECE, SA                    | (RA)                      |                                       |                                       |

| Damascus Natura                              |  | arn Ln, East of        |   |                              | WETLAND:<br>Map No: | RI-D-02<br>E4   | OFF SITE                                     |   |
|--|--|------------------------|---|------------------------------|---------------------|-----------------|--|---|
| Cowardin Class:                              | PEM, PSS, PC                           |                        |   | -                            | Plot No:            | OFF SITE        |  |   |
| HGM Class:                                   | RFT                                    |                        |   | •                            | WET/UPL:            | WET             |  |   |
| Field Investigator(s):                       | ACS/TB                                 |                        |   | •                            | Date:               | 4/4/2007        |  |   |
| Recent Weather:                              |  | last 14 days: 6        | 9% above avera                            | ae                           |                     |                 |  |   |
| Do normal conditions exist                   |  |                        | Yes                                       |                              |                     |                 |  |   |
| Is the site significantly dist               |  |                        | No  |                              |                     |                 |  |   |
| Is the area a potential prob                 |  |                        | No  |                              |                     |                 |  |   |
|  |  |                        |   |                              |                     |                 |  |   |
| Vegetation:                                  | Dominant Pla                           | nt Species             |   |                              |                     |                 | · · · · · · · · · · · · · · · · · · ·        |   |
| Herb Stratum<br>Total cover: 0%              | Ind. status                            | % Cover                | % rel. cover                              | Tree Stratum<br>Total cover: | <b>ו</b><br>0%      | Ind. status     | % Cover                                      | % rel. cover  |
| Holcus lanatus                               | FAC                                    | T                      |   |                              |                     |                 |  |   |
| Poa annua                                    | FAC                                    | T                      |   |                              |                     |                 |  |   |
|  | ······································ |                        |   |                              |                     |                 |  |   |
| • <u> </u>                                   |  |                        |   | ······                       |                     |                 |  |   |
| ·  |  |                        |   | Sapling/ Shr<br>Total cover: | ub Stratum<br>85%   | Ind. status     | % Cover                                      | % rel. cover  |
| ······································       |  |                        |   | Salix spp.                   |                     | FAC-FACW        | 80%  | 94.1%   |
|  |  |                        |   |                              | or [R. armenia      |                 | T  |   |
| *****  |  |                        |   | Corylus corn                 |                     | FACU            | T  | •   |
|  |  | <u> </u>               |   | Spiraea doug                 |                     | FACW            | 5%   | 5.9%  |
|  |  |                        |   | <u>_</u>                     |                     |                 |  |   |
| Percent of dominant specie<br>Remarks:       | es that are OB                         | L, FACW, and/          | or FAC :                                  |                              | 1                   | of              |  | 100%  |
| Soils:                                       |  |                        |   |                              |                     |                 |  |   |
| Map Unit Name:                               | Bornstedt silt I                       | oam, 8-15%             |   | Drainage Cla                 | ass:                | moderately we   | ell drained                                  |   |
| Taxonomy:                                    | Typic Haploxe                          |                        |   | Hydric soil?                 | No                  | Hydric inclus   |  | Yes   |
| Depth Horizon                                | Matrix Color                           |                        | Redox Conc.                               | Redox Desc.                  |                     | Texture/Structu | ire/etc                                      |   |
| Exposed soil visible                         | low chroma w/ re                       | edox (many)            |   |                              |                     | clay loam       |  |   |
|  |  |                        |   |                              |                     |                 |  |   |
|  |  |                        |   |                              |                     |                 |  |   |
| Hydric soil indicators:                      |  | Be                     | dualag Conditions                         |                              |                     | Organia stroak  | ing (in candy colle)                         |   |
| Histosol<br>Hist. Epipedon                   | -                                      |                        | educing Conditions<br>Features (w/in 10") |                              | -                   |                 | ing (in sandy soils)<br>ban (in sandy soils) |   |
| Sulfidic Odor                                | -                                      |                        | es (w/in 3"; >2mm)                        |                              | -                   |                 | On Hydric Soils List                         | And the second se |
| Gley/low chroma                              |  |                        | ace (in sandy soils)                      |                              | -                   |                 | Other  |   |
| Remarks: Exposed soils                       | s with visible re                      | dox. features          |   |                              | -                   |                 |  |   |
| Hydrology:                                   |  |                        |   |                              |                     |                 |  |   |
| Pagardad Data Available?                     | Vaa                                    |                        | Aorial abotes                             | v                            | Strm asur-          |                 | Other  |   |
| Recorded Data Available?                     | Yes                                    | Primary Hydrol         | Aerial photos                             | <u>X</u>                     | _Strm. gauge        | econdary Hydro  | Other:                                       |   |
| Depth of inundation:                         | nonding                                | <u>r minary riyulu</u> | Inundated                                 |                              |                     | d Root Channe   |  |   |
| Depth of inundation:<br>Depth to saturation: | ponding<br>not sampled                 | Saturato               | d in upper 12"                            |                              | - 0210120           |                 | stained leaves                               |   |
| Depth to free water:                         | not sampled                            | Jaturalet              | Water marks                               |                              | -                   |                 | il Survey Data                               |   |
| Sobur to lice water.                         | not sampled                            |                        | Drift lines                               |                              |                     |                 | C-Neutral Test                               |   |
|  |  | Sedir                  | nent deposits                             |                              | -                   |                 | Other:                                       | adjoins pond  |
|  |  |                        | nage patterns                             | X                            | -                   |                 | Othol:                                       |   |
| Remarks: Visible pondi                       | ng, soggy to tou                       |                        |   | <u></u>                      | -                   |                 |  |   |
|  |  |                        |   | -                            |                     | ,               |  |   |
| Wetland Determinatio                         | on:                                    |                        |   |                              |                     |                 |  |   |
| Is the hydrophytic vegetati                  | on criterion m                         | et?                    | YES                                       |                              |                     |                 |  |   |
| Is the hydric soil criterion                 |  |                        | YES                                       |                              |                     |                 |  |   |
| Is the specific hydrology c                  |  |                        | YES                                       |                              |                     |                 |  |   |
| Is this sampling point with                  |  |                        | YES                                       |                              |                     |                 |  |   |
|  | mia weudilu (                          |                        |   |                              |                     |                 |  |   |
| Comments:                                    |  |                        |   |                              |                     |                 |  |   |

| Location:<br>Cowardin Class:   | I Features<br>North of Hwy 2<br>PEM, PSS   |   | •  | -  | WETLAND:<br>Map No:<br>Plot No:       | RI-E-01<br>E4<br>DP 1  |   |              |
|--|--|---|--|--|---------------------------------------|--|---|--------------|
| HGM Class:   | RFT, SH  |   |  | _  | WET/UPL:                              | WET  |   |              |
| Field Investigator(s):   | ACS/TB   |   |  | _  | Date:                                 | 3/16/2007  |   |              |
| Recent Weather:  | 1.72" of rain in   | past 14 days;   | 88% of average   |  |                                       |  |   |              |
| Do normal conditions exist   | t on the site?   |   | Yes  |  |                                       |  |   |              |
| Is the site significantly dist   | turbed?  |   | No   |  |                                       |  |   |              |
| Is the area a potential prob   | lem area?  |   | No   |  |                                       |  |   |              |
| Vegetation:  | Dominant Pla   | nt Species  |  |  |                                       |  |   |              |
| Herb Stratum<br>Total cover: 100%  |  | % Cover   | % rel. cover   | Tree Stratum<br>Total cover:   | 0%                                    | Ind. status  | % Cover   | % rel. cover |
| Phalaris arundinacea   | FACW ,   | 100%  | 100.0%   |  |                                       |  |   |              |
|  |  |   | ·  | Sapling/ Shr<br>Total cover:   | 0%                                    |  | % Cover   | % rel. cover |
|  |  |   | · ····   | Rubus discolo  | or [R. armenia                        | x FACU   | T   |              |
| Percent of dominant specie<br>Remarks: some CYSC   |  | ., FACW, and/   | or FAC :   |  | 1                                     | of   | 1   | = 100%       |
| Soils:   |  |   |  |  |                                       |  |   |              |
|  |  | ······  |  |  |                                       |  |   |              |
| Map Unit Name:   | Bornstedt silt lo  | oam, 15-30%   |  | _Drainage Cla  | ISS:                                  | moderately we  | ll drained  |              |
| Taxonomy:  | Typic Haploxer   | ults  |  | Hydric soil?   | No                                    | Hydric inclusi   | ons?  | Yes          |
| Douth 11   |  |   |  |  |                                       |  |   |              |
| Depth Horizon  | Matrix Color   |   | Redox Conc.  | Redox Desc.  |                                       | Texture/Structu  | re/etc  |              |
| Depth     Horizon       0-16"  | Matrix Color<br>10 YR 3/3  |   | Redox Conc.  | Redox Desc.  |                                       | silt loam, sub ab  | re/etc  |              |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma  | 10 YR 3/3<br>C<br>High organ   | Redox.<br>oncretions/Nodul<br>ic content in surf  | educing Conditions<br>Features (w/in 10",<br>les (w/in 3"; >2mm)<br>ace (in sandy soils;   | 5<br>)   | · · · · · · · · · · · · · · · · · · · | silt loam, sub ab<br>Organic streaki<br>Organic p  | ng (in sandy soils<br>an (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe  | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma  | 10 YR 3/3<br>C<br>High organ   | Redox.<br>oncretions/Nodul<br>ic content in surf  | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)   | 5<br>)   |                                       | silt loam, sub ab<br>Organic streaki<br>Organic p  | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis  | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available?   | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 or<br>Yes  | Redox.<br>oncretions/Nodui<br>ic content in surf<br>r 4 (ponded or  | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br><i>logy Indicators</i>  | 5<br>)   |                                       | silt loam, sub ab<br>Organic streaki<br>Organic p<br>O   | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators  | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation:  | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 or<br>Yes<br>ponding   | Redox.<br>oncretions/Nodui<br>ic content in surf<br>r 4 (ponded or<br>Primary Hydro   | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br>logy Indicators<br>Inundated  | duration)  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>e <u>condary Hydrol</u><br>d <b>Root Channe</b>  | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br><u>ogy Indicators</u><br>Is (upper 12'')  | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation:   | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 or<br>Yes<br>ponding<br>surface  | Redox.<br>oncretions/Nodui<br>ic content in surf<br>r 4 (ponded or<br>Primary Hydro   | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br>logy Indicators<br>Inundated<br>d in upper 12"  | duration)  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O<br>O | ng (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Othe<br>Other:<br><u>ogy Indicators</u><br>Is (upper 12'')<br>tained leaves                            | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation:  | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 or<br>Yes<br>ponding   | Redox.<br>oncretions/Nodui<br>ic content in surf<br>r 4 (ponded or<br>Primary Hydro   | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br><u>logy Indicators</u><br>Inundated<br>d in upper 12"<br>Water marks  | duration)  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Othe<br>Other:<br><u>ogy Indicators</u><br>Is (upper 12'')<br>tained leaves<br>I Survey Data           | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation:   | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 or<br>Yes<br>ponding<br>surface  | Redox.<br>oncretions/Nodul<br>ic content in surf<br>r 4 (ponded or<br><u>Primary Hydro</u><br>Saturate  | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br>logy Indicators<br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines  | duration)  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>2-Neutral Test | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation:   | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 or<br>Yes<br>ponding<br>surface  | Redox.<br>oncretions/Nodul<br>ic content in surf<br><u>r 4 (ponded or</u><br><u>Primary Hydro</u><br>Saturate<br>Sedi                             | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br>logy Indicators<br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits   | S       O <t< td=""><td><u>.</u><br/><u>S</u>e</td><td>silt Ioam, sub ab<br/>Organic streaki<br/>Organic p<br/>O<br/>O<br/>Secondary Hydrol<br/>d Root Channel<br/>Water-s<br/>Local Soi</td><td>ng (in sandy soils<br/>an (in sandy soils<br/>in Hydric Soils Lis<br/>Othe<br/>Other:<br/><u>ogy Indicators</u><br/>Is (upper 12'')<br/>tained leaves<br/>I Survey Data</td><td>)</td></t<> | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Othe<br>Other:<br><u>ogy Indicators</u><br>Is (upper 12'')<br>tained leaves<br>I Survey Data           | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water:  | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 of<br>Yes<br>ponding<br>surface<br>surface   | Redox.<br>oncretions/Nodul<br>ic content in surf<br><u>r 4 (ponded or</u><br><u>Primary Hydro</u><br>Saturate<br>Sedii<br>Drai                    | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils,<br>flooded for long<br>Aerial photos<br><i>logy Indicators</i><br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns                          | x       X       X       X       X  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>2-Neutral Test | )            |
| 0-16"         Hydric soil indicators:         Histosol         Hist. Epipedon         Sulfidic Odor         Gley/low chroma         Remarks:       Meets hyrdric         Hydrology:         Recorded Data Available?         Depth of inundation:         Depth to free water:         Remarks:       No defined cf    | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 or<br>Yes<br>ponding<br>surface<br>surface   | Redox.<br>oncretions/Nodul<br>ic content in surf<br><u>r 4 (ponded or</u><br><u>Primary Hydro</u><br>Saturate<br>Sedii<br>Drai                    | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br>logy Indicators<br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits   | x       X       X       X       X  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>2-Neutral Test | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water:  | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 or<br>Yes<br>ponding<br>surface<br>surface   | Redox.<br>oncretions/Nodul<br>ic content in surf<br><u>r 4 (ponded or</u><br><u>Primary Hydro</u><br>Saturate<br>Sedii<br>Drai                    | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils,<br>flooded for long<br>Aerial photos<br><i>logy Indicators</i><br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns                          | x       X       X       X       X  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>2-Neutral Test | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to free water: Remarks: No defined ch  | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 of<br>Yes<br>ponding<br>surface<br>surface   | Redox.<br>oncretions/Nodul<br>ic content in surf<br><u>r 4 (ponded or</u><br><u>Primary Hydro</u><br>Saturate<br>Sedii<br>Drai<br>twy 212, shallo | educing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>ace (in sandy soils,<br>flooded for long<br>Aerial photos<br><i>logy Indicators</i><br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns                          | x       X       X       X       X  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>2-Neutral Test | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water: Remarks: No defined ch Wetland Determinatio  | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 of<br>Yes<br>ponding<br>surface<br>surface<br>nannel north of H<br>m:<br>on criterion me   | Redox.<br>oncretions/Nodul<br>ic content in surf<br><u>r 4 (ponded or</u><br><u>Primary Hydro</u><br>Saturate<br>Sedii<br>Drai<br>twy 212, shallo | educing Conditions<br>Features (w/in 10",<br>les (w/in 3"; >2mm,<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br><i>logy Indicators</i><br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns<br>ow ponding in pla     | x       X       X       X       X  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>2-Neutral Test | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water: Remarks: No defined ch Wetland Determinatio Is the hydrophytic vegetation                                | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 of<br>Yes<br>ponding<br>surface<br>surface<br>nannel north of H<br>m:<br>on criterion me<br>net?                                       | Redox.<br>oncretions/Nodul<br>ic content in surf<br><u>r 4 (ponded or</u><br><u>Primary Hydro</u><br>Saturate<br>Sedii<br>Drai<br>twy 212, shallo | educing Conditions<br>Features (w/in 10",<br>les (w/in 3"; >2mm,<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br><i>logy Indicators</i><br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns<br>ow ponding in pla     | x       X       X       X       X  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>2-Neutral Test | )            |
| 0-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma Remarks: Meets hyrdric Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water: Remarks: No defined ch Wetland Determinatio Is the hydrophytic vegetation Is the hydroc soil criterion r | 10 YR 3/3<br>C<br>High organ<br>soil criteria 3 of<br>Yes<br><u>ponding</u><br><u>surface</u><br>surface<br><u>nannel north of H</u><br>m:<br>on criterion me<br>net?<br>riterion met? | Redox.<br>oncretions/Nodul<br>ic content in surf<br><u>r 4 (ponded or</u><br><u>Primary Hydro</u><br>Saturate<br>Sedii<br>Drai<br>twy 212, shallo | educing Conditions<br>Features (w/in 10",<br>les (w/in 3"; >2mm,<br>ace (in sandy soils)<br>flooded for long<br>Aerial photos<br><i>logy Indicators</i><br>Inundated<br>d in upper 12"<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns<br>ow ponding in platers | x       X       X       X       X  | <u>.</u><br><u>S</u> e                | silt Ioam, sub ab<br>Organic streaki<br>Organic p<br>O<br>O<br>Secondary Hydrol<br>d Root Channel<br>Water-s<br>Local Soi                        | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>2-Neutral Test | )            |

| Damascus Natura<br>Location:<br>Cowardin Class:<br>HGM Class:<br>Field Investigator(s):<br>Recent Weather:<br>Do normal conditions exist<br>Is the site significantly dist<br>Is the area a potential prob | North of Hwy 2'<br>PEM, PSS<br>RFT, SH<br>ACS/TB<br>1.72" of rain in<br>on the site?<br>urbed?<br>lem area? | 12, west of 232<br>last 14 days; 8 | nd  |   | WETLAND:<br>Map No:<br>Plot No:<br>WET/UPL:<br>Date: | RI-E-01<br>E4<br>DP 2<br>UPL<br>3/16/2007                      |   |              |
|--|---|------------------------------------|---|---|--|--|---|--------------|
| Vegetation:  | Dominant Plar   |                                    |   |   |  |  |   |              |
| Herb Stratum<br>Total cover: 0%  | Ind. status   | % Cover                            | % rel. cover  | Tree Stratum<br>Total cover:                | 0%   | Ind. status  | % Cover   | % rel. cover |
|  |   |                                    |   | Sapling/ Shr<br>Total cover:                | ub Stratum<br>100%                                   | Ind. status  | % Cover   | % rel. cover |
|  |   |                                    |   | Rubus discol                                | or [R. armenia                                       | r FACU   |   |              |
| Percent of dominant speci<br>Remarks: <u>Monospecific</u><br>Soils:  | es that are OBL<br>stand of Rubus   |                                    | or FAC :  |   | 0  | of   | 1   | - 0%         |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>0-16"  | Bornstedt silt lo<br>Typic Haploxer<br>Matrix Color<br>10 YR 4/3  | ults                               | Redox Conc.   | Drainage Cla<br>Hydric soil?<br>Redox Desc. |  | moderately we<br>Hydric inclus<br>Texture/Structu<br>silt loam | ions?   | Yes          |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks:  |   | Redox.<br>oncretions/Nodul         | educing Conditions<br>Features (w/in 10'')<br>es (w/in 3''; >2mm)<br>ace (in sandy soils)   |   |  | Organic p  | ing (in sandy soils<br>pan (in sandy soils<br>on Hydric Soils Lis<br>Othe | )<br>        |
| Hydrology:   |   |                                    |   |   |  |  |   |              |
| Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:   | Yes<br><u>NONE</u><br>>16"<br>>16"  | Saturateo<br>Sedii                 | Aerial photos<br>logy Indicators<br>Inundated<br>d in upper 12''<br>Water marks<br>Drift lines<br>ment deposits<br>inage patterns | x   |  | Local So   |   |              |
| Remarks: Barely moist  |   |                                    |   |   |  |  |   |              |
| Wetland Determination<br>Is the hydrophytic vegetation<br>Is the hydric soil criterion<br>Is the specific hydrology of<br>Is this sampling point with<br>Comments: Plot on east-                           | on criterion me<br>met?<br>riterion met?  |                                    | NO<br>NO<br>NO<br>NO<br>avy blackberry  |   |  |  |   |              |

| ······   |   |   |  |   |                     |  |   |                 |
|--|---|---|--|---|---------------------|--|---|-----------------|
| Damascus Natura  | l Fosturos  | Invento   | r\/  |   |                     |  |   |                 |
|  |   |   | •  |   | WETLAND:            | RO-A-01  |   |                 |
| Location:  | South of Hwy 2  | 212, West of V  | enice Ridge  | -   | Map No:             | F1   |   |                 |
| Cowardin Class:  | PEM, PFO  |   |  | -   | Plot No:            | PLOT 1   |   |                 |
| HGM Class:   | RFT   |   |  | _   | WET/UPL:            | WET  |   |                 |
| Field Investigator(s):   | TB/RR   |   |  |   | Date:               | 3/9/2007   |   |                 |
| Recent Weather:  | 2.58" of rain in  | last 14 days;   | 17% above norm   | al  |                     |  |   |                 |
| Do normal conditions exis  |   |   | Yes  |   |                     |  |   |                 |
| Is the site significantly dis  |   |   | No   |   |                     |  |   |                 |
| Is the area a potential prol   |   |   | No   |   |                     |  |   |                 |
| is the area a potential prof   | Jiem area :   |   |  |   |                     |  |   |                 |
| Vegetation:  | Dominant Pla  | nt Species  |  |   |                     | <b>W</b>   |   |                 |
| Llash Stratum  | Ind status  | % Cover   | 9/ mail a an an  | Tano Stratura   |                     | Ind status   | 0/ <b>O</b>   | 9/ mail a autom |
| Herb Stratum   | Ind. status   | % Cover   | % rel. cover   | Tree Stratum  |                     | Ind. status  | % Cover   | % rel. cover    |
| Total cover: 55%   |   |   |  | Total cover:  | 20%                 |  |   |                 |
| Stachys cooleyae [emerson  |   | 10%   | 18.2%  | Thuja plicata   |                     | FAC  | 10%   | 50.0%           |
| Equisetum arvense  | FAC   | 40%   | * 72.7%  | Alnus rubra   |                     | FAC  | 10%   | 50.0%           |
| Mittella sp.   |   | 5%  | 9.1%   |   |                     |  |   |                 |
|  |   | <u></u>   | -  |   |                     |  |   |                 |
|  |   |   |  | Sapling/ Shr  |                     | Ind. status  | % Cover   | % rel. cover    |
|  |   |   |  | Total cover:  | 35%                 | ·  |   |                 |
|  |   |   |  | Rubus discolo   | or [R. armenia      | K FACU   | 25%   | 71.4%           |
|  |   | <u></u>   |  | Rubus ursinu:   | s                   | FACU   | 10%   | 28.6%           |
|  |   |   |  |   |                     |  | -   |                 |
|  |   |   |  |   |                     |  |   |                 |
|  |   |   |  |   |                     |  |   |                 |
| Percent of dominant spec   |   |   | /or FAC :  |   | 3                   | of   |   | =60%            |
| Remarks: ACMA eleva  | ted 2 feet above  | plot  |  |   |                     |  |   |                 |
| Soils:   |   |   |  |   |                     |  |   |                 |
|  |   |   |  |   |                     |  |   |                 |
| Map Unit Name:   | Woodburn silt   |   |  | _Drainage Cla   | ss:                 | moderately we  |   |                 |
| Map Unit Name:<br>Taxonomy:  | Woodburn silt<br>Aquultic Argixe  |   |  | _Drainage Cla<br>Hydric soil?   | iss:<br>No          | moderately we  |   | Yes             |
|  |   |   | Redox Conc.  | -   |                     |  | ons?  | Yes             |
| Taxonomy:  | Aquultic Argixe   |   | Redox Conc.  | Hydric soil?  |                     | Hydric inclusi   | ons?  | Yes             |
| Taxonomy:<br>Depth Horizon   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2  |   |  | Hydric soil?<br>Redox Desc.   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay   | ons?  | Yes             |
| Taxonomy:       Depth     Horizon       0-4"   | Aquultic Argixe<br>Matrix Color   |   | Redox Conc.<br>few/fine/faint  | Hydric soil?  | No                  | Hydric inclusi<br>Texture/Structu  | ons?  | Yes             |
| Taxonomy:       Depth     Horizon       0-4"     -416"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2  |   |  | Hydric soil?<br>Redox Desc.   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay   | ons?  | Yes             |
| Taxonomy:       Depth     Horizon       0-4"     -4"       4-16"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2  | erolis  | few/fine/faint   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay   | ons?<br>re/etc  |                 |
| Taxonomy:       Depth     Horizon       0-4"     -4"       4-16"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2  | F   | few/fine/faint   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki  | re/etc  | )               |
| Taxonomy:         Depth       Horizon         0-4"       -4"         4-16"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1   | Frolis<br>F<br>Redox.   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic p   | re/etc<br>ng (in sandy soils<br>an (in sandy soils  | )               |
| Taxonomy:         Depth       Horizon         0-4"       -4"         4-16"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1   | Frolls<br>F<br>Redox.<br>Soncretions/Nodu   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>Iles (w/in 3"; >2mm)   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic p   | re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis  | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"       -4"         4-16"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1   | Frolls<br>F<br>Redox.<br>Soncretions/Nodu   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic p   | re/etc<br>ng (in sandy soils<br>an (in sandy soils  | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1   | Frolls<br>F<br>Redox.<br>Soncretions/Nodu   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>Iles (w/in 3"; >2mm)   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic p   | re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis  | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1   | Frolls<br>F<br>Redox.<br>Soncretions/Nodu   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>Iles (w/in 3"; >2mm)   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No                  | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic p   | re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis  | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes   | F<br>Redox.<br>oncretions/Nodu<br>ic content in sur   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>lles (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic p<br>O  | re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe  | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ  | F<br>Redox.<br>oncretions/Nodu<br>ic content in sur   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>Iles (w/in 3"; >2mm)<br>face (in sandy soils)  | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic p   | re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe  | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"       -4-16"         4-16"  | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes   | F<br>Redox.<br>oncretions/Nodu<br>ic content in sur   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>lles (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic p<br>O  | re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:  | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ  | F<br>Redox.<br>concretions/Nodu<br>ic content in sur  | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>lles (w/in 3"; >2mm)<br>face (in sandy soils)<br>face (in sandy soils)<br>Aerial photos<br><u>ology Indicators</u><br>Inundated  | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O   | re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe<br>Other:  | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes<br>NONE   | F<br>Redox.<br>concretions/Nodu<br>ic content in sur  | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"   | Hydric soil?<br>Redox Desc.<br>faint, few manga   | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O   | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>is (upper 12'')<br>tained leaves                                   | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"       4-16"         4-16"       Hydric soil indicators:         Histosol       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma       X         Remarks:       Hydrology:         Recorded Data Available?       Depth of inundation:  | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes<br><u>NONE</u><br><u>3"</u>   | F<br>Redox.<br>concretions/Nodu<br>ic content in sur  | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>lles (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks   | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>drance p<br>O<br>Structure<br>Condary Hydrole<br>drance Channel<br>Water-s<br>Local Soi  | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data                   | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes<br><u>NONE</u><br><u>3"</u>   | F<br>Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate                   | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines   | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>Streaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streak | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other:<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data<br>-Neutral Test | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes<br><u>NONE</u><br><u>3"</u>   | F<br>Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi           | few/fine/faint<br>Reducing Conditions<br>Features (win 10")<br>les (win 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>ment deposits                          | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>Streaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streak | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data                   | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"       4-16"         Hydric soil indicators:       Histosol         Hist. Epipedon       Sulfdic Odor         Gley/low chroma       X         Remarks:       Hydrology:         Recorded Data Available?       Depth of inundation:         Depth to free water:       Depth to free water:  | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes<br><u>NONE</u><br><u>3"</u>   | F<br>Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi           | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>les (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines   | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>Streaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streak | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other:<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data<br>-Neutral Test | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes<br><u>NONE</u><br><u>3"</u>   | F<br>Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi           | few/fine/faint<br>Reducing Conditions<br>Features (win 10")<br>les (win 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>ment deposits                          | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>Streaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streak | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other:<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data<br>-Neutral Test | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"       4-16"         Hydric soil indicators:       Histosol         Hist. Epipedon       Sulfdic Odor         Gley/low chroma       X         Remarks:       Hydrology:         Recorded Data Available?       Depth of inundation:         Depth to free water:       Depth to free water:  | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes<br>NONE<br>3"<br>4"   | F<br>Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi           | few/fine/faint<br>Reducing Conditions<br>Features (win 10")<br>les (win 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>ment deposits                          | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>Streaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streak | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other:<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data<br>-Neutral Test | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"       4-16"         Hydric soil indicators:       Histosol         Histosol       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma X       Remarks:         Hydrology:       Recorded Data Available?         Depth of inundation:       Depth to saturation:         Depth to free water:       Remarks:         Wetland Determination       Determination  | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>C<br>High organ<br>Yes<br>NONE<br>3"<br>4"<br>Dn:  | Folls<br>Redox.<br>Concretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>iles (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>inage patterns    | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>Streaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streak | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other:<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data<br>-Neutral Test | )<br>)<br>t     |
| Taxonomy:         Depth       Horizon         0-4"       4-16"         Hydric soil indicators:       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma X       Remarks:         Hydrology:       Recorded Data Available?         Depth of inundation:       Depth to saturation:         Depth to free water:       Remarks:         Wetland Determination       Is the hydrophytic vegetat   | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>Grave Color<br>High organ<br>Yes<br>NONE<br>3"<br>4"<br>On:<br>ion criterion me                        | Folls<br>Redox.<br>Concretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>iles (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>inage patterns                      | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>Streaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streak | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other:<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data<br>-Neutral Test | )<br>)<br>t     |
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| Taxonomy:         Depth       Horizon         0-4"       4-16"         4-16"       Histosol         Hydric soil indicators:<br>Histosol       Histosol         Hist. Epipedon<br>Sulfidic Odor       Gley/low chroma X         Remarks:       Hydrology:         Recorded Data Available?       Depth of inundation:<br>Depth to saturation:<br>Depth to free water:         Remarks:       Hydrology:         Remarks:       Hydrology:         Steph of inundation:<br>Depth to free water:         Bepth of pree water:       Hydrology:         Remarks:       Hydrology:         Depth of inundation:<br>Depth to free water:         Bepth to free water:       Hydrology:         Remarks:       Hydrology:         Remarks:       Hydrology:         Remarks:       Hydrology:         Bepth to free water:       Hydrology:         Hettand       Determination:         Depth to free water:       Hydrology:         Remarks:       Hydrology:         Hydrology:       Hydrology:         Hydrology:       Hydrology:         Hydrology:       Hydrology:         Hydrology:       Hydrology:         Hydrology: | Aquultic Argixe<br>Matrix Color<br>10 YR 3/2<br>10 YR 4/1<br>Gravit Color<br>10 YR 3/2<br>COL<br>High organ<br>Yes<br>NONE<br>3"<br>4"<br>On:<br>ion criterion met? | Folls<br>Redox.<br>Concretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | few/fine/faint<br>Reducing Conditions<br>Features (w/in 10")<br>iles (w/in 3"; >2mm)<br>face (in sandy soils)<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>inage patterns<br><u>YES</u><br>YES | Hydric soil?         Redox Desc.         faint, few manga         X         X           | No<br>anese nodules | Hydric inclusi<br>Texture/Structur<br>silty clay<br>silty clay<br>Organic streaki<br>Organic streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>dracet streaki<br>Organic p<br>O<br>Streaki<br>Organic streaki<br>Organic streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streaki<br>Streak | ons?<br>re/etc<br>ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Other:<br>Other:<br>ogy Indicators<br>Is (upper 12")<br>tained leaves<br>I Survey Data<br>-Neutral Test | )<br>)<br>t     |
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| Damaeoue Moture   | al Fosturor  | Invonto   | m.  |                                  |                |  |   |              |
|---|--|---|---|----------------------------------|----------------|--|---|--------------|
| Damascus Natura   |  |   | •   |                                  | ETLAND:        | RO-A-01  |   |              |
| Location:   | South of Hwy 2   | 212, west of V  | enice Ridge   |                                  | ip No:         | F1   |   |              |
| Cowardin Class:   |  |   |   | -                                | ot No:         | DP 2   |   |              |
| HGM Class:  | 75 (55   |   | ······  | -                                | ET/UPL:        | UPL  |   |              |
| Field Investigator(s):  | TB/RR  |   |   | _ Da                             | te:            | 3/9/2007   |   |              |
| Recent Weather:   |  | past 14 days;   | 17% above aver  | rage                             |                |  |   |              |
| Do normal conditions exis   |  |   | Yes   |                                  |                |  |   |              |
| Is the site significantly dis   | turbed?  |   | No  |                                  |                |  |   |              |
| Is the area a potential prol  | blem area?   |   | No  |                                  |                |  |   |              |
| Vegetation:   | Dominant Pla   | nt Species  |   |                                  |                |  |   |              |
| Herb Stratum<br>Total cover: 80%  | Ind. status  | % Cover   | % rel. cover  | Tree Stratum<br>Total cover:     | 80%            | Ind. status  | % Cover   | % rel. cover |
| Polystichum munitum   | FACU   | <sup>,</sup> 40%  | 50.0%   | Acer macrophyllu                 |                | FACU   | 70%   | 87.5%        |
| Dicentra formosa  | FACU   | 20%   | * 25.0%   | Alnus rubra                      |                | FAC  | 10%   | 12.5%        |
|   |  | 5%  | 6.3%  | Allius Tubia                     |                | 140  | 1070  | 12.370       |
| Urtica dioica   | FAC+   |   | -   |                                  |                |  |   |              |
| Tellima grandiflora   | UPL  | 15%   | 18.8%   | <u></u>                          |                |  |   |              |
| Carex deweyana  | FAC+   | T   |   |                                  |                |  |   |              |
|   |  |   | -   | Sapling/ Shrub S<br>Total cover: | Stratum<br>40% | Ind. status  | % Cover   | % rel. cover |
| <u></u>   | <u></u>  |   | <u> </u>  | Corylus cornuta                  |                | FACU   | 10%   | 25.0%        |
| <b>*****</b>  |  |   |   | Rubus discolor [F                | R armenia      | FACU   | 30%   | 75.0%        |
|   |  |   |   | Ilex aquifolium                  |                | UPL  | T   |              |
|   |  |   |   |                                  |                |  |   |              |
| Percent of dominant spec  | ies that are OBI   | , FACW, and   | l/or FAC :  |                                  | 0              | of   | 5   | = 0%         |
| Remarks:  |  |   |   |                                  |                | -  | , i i i i i i i i i i i i i i i i i i i   |              |
| Soils:  |  |   |   |                                  |                |  |   |              |
| Map Unit Name:  | Woodburn silt  |   |   | Drainage Class:                  |                | moderately we  |   |              |
| Taxonomy:   | Aquultic Argixe  | IOIIS   |   | Hydric soil?                     | No             | Hydric inclusi   |   | Yes          |
| Depth Horizon   | Matrix Color   |   | Redox Conc.   | Redox Desc.                      |                | Texture/Structu  | re/etc  |              |
| 0-18"   | 10 YR 3/3  |   |   |                                  |                | clay loam  |   |              |
|   |  |   |   |                                  |                |  |   |              |
| Hydric soil indicators:   |  |   |   |                                  |                |  |   |              |
| Histosol  |  |   |   |                                  |                |  |   |              |
| Hist. Epipedon  |  | F   | Reducing Conditions   | 3                                |                | Organic streaki  | ng (in sandy soils  | )            |
|   | -  |   | Reducing Conditions<br>. Features (w/in 10"   | •••••••••••••••••••••••••        |                | -  | ng (in sandy soils<br>an (in sandy soils  |              |
| Sulfidic Odor   | -<br>- c   | Redox.  | -   | )                                |                | Organic p  |   | )            |
|   |  | Redox.<br>oncretions/Nodu   | Features (w/in 10"  | )                                |                | Organic p  | an (in sandy soils  | )<br>[       |
| Sulfidic Odor   |  | Redox.<br>oncretions/Nodu   | . Features (w/in 10"<br>iles (w/in 3"; >2mm   | )                                |                | Organic p  | an (in sandy soils<br>n Hydric Soils Lis  | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma  |  | Redox.<br>oncretions/Nodu   | . Features (w/in 10"<br>iles (w/in 3"; >2mm   | )                                |                | Organic p  | an (in sandy soils<br>n Hydric Soils Lis  | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:  | High organ   | Redox.<br>oncretions/Nodu   | . Features (w/in 10"<br>iles (w/in 3"; >2mm   | )<br>                            | m. gauge       | Organic p  | an (in sandy soils<br>n Hydric Soils Lis  | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:  | High orgar   | Redox.<br>oncretions/Nodu<br>ic content in sur  | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos  | )<br>                            | m. gauge<br>Se | Organic p<br>O   | an (in sandy soils<br>in Hydric Soils Lis<br>Othe<br>Other:   | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?  | High orgar   | Redox.<br>oncretions/Nodu<br>ic content in sur  | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>plogy Indicators</u>   | )<br>                            | <u>Se</u>      | Organic p<br>O<br>ocondary Hydrol  | an (in sandy soils<br>in Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators   | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:  | High orgar   | Redox.<br>concretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u>                           | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated  | )<br>                            | <u>Se</u>      | Organic p<br>O<br>econdary Hydrol<br>d Root Channe                                 | an (in sandy soils<br>in Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators<br>Is (upper 12'')  | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:  | High organ<br>Yes<br>NONE<br>>18"  | Redox.<br>concretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u>                           | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>clogy Indicators</u><br>Inundated<br>ed in upper 12"   | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channel<br>Water-s             | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>is (upper 12'')<br>tained leaves  | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:  | High orgar   | Redox.<br>concretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u>                           | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks  | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data                           | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:  | High organ<br>Yes<br>NONE<br>>18"  | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate                | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines   | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>o <u>qy Indicators</u><br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:  | High organ<br>Yes<br>NONE<br>>18"  | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi        | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits   | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data                           | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:  | High organ<br>Yes<br>NONE<br>>18"  | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi        | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines   | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>o <u>qy Indicators</u><br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:<br>Remarks:  | High organ<br>Yes<br>NONE<br>>18"<br>>18"  | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi        | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits   | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>o <u>qy Indicators</u><br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:  | High organ<br>Yes<br>NONE<br>>18"<br>>18"  | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi        | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits   | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>o <u>qy Indicators</u><br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:<br>Remarks:  | Yes NONE >18" >18" DON:  | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits   | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>o <u>qy Indicators</u><br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:<br>Remarks:<br>Wetland Determinatio  | High organ         Yes         NONE         >18"         >18"         Dn:         ion criterion me     | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>inage patterns  | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>o <u>qy Indicators</u><br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:<br>Remarks:<br>Wetland Determination<br>Is the hydrophytic vegetat                                 | High organ<br>Yes<br>NONE<br>>18"<br>>18"<br>On:<br>ion criterion me<br>met?                           | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>inage patterns  | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test         | )<br>[       |
| Sulfidic Odor<br>Gley/low chroma<br>Remarks:<br>Hydrology:<br>Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:<br>Remarks:<br>Wetland Determination<br>Is the hydrophytic vegetat<br>Is the hydric soil criterion | High organ<br>Yes<br>NONE<br>>18"<br>>18"<br>>18"<br>On:<br>ion criterion me<br>met?<br>:riterion met? | Redox.<br>oncretions/Nodu<br>ic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | Features (w/in 10" ules (w/in 3"; >2mm face (in sandy soils         Aerial photos         Diogy Indicators         Inundated         ed in upper 12"         Water marks         Drift lines         image patterns         NO         NO | )<br>                            | <u>Se</u>      | Organic p<br>O<br>e <u>condary Hydrol</u><br>d Root Channe<br>Water-s<br>Local Soi | an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>tained leaves<br>I Survey Data<br>S-Neutral Test         | )<br>[       |

| Damascus Natura  | I Features   | Inventor   | 'Y  |   | WETLAND:              | RO-A-02  |  |                                       |
|--|--|--|---|---|-----------------------|--|--|---------------------------------------|
| Location:  | East of Hwy 2 <sup>2</sup>   |  | •   |   | Map No:               | F1   |  |                                       |
| Cowardin Class:  | PFO, PEM   |  |   | -   | Plot No:              | DP 1   |  |                                       |
| HGM Class:   | S/V  |  |   | -   | WET/UPL:              | WET  |  |                                       |
| Field Investigator(s):   | ACS/TB/RR  |  |   | -   | Date:                 | 3/9/2007   |  |                                       |
| Recent Weather:  |  | last 14 davs:  | 17% above avera   | aae   |                       | •·····   |  |                                       |
| Do normal conditions exis  |  |  | Yes   | -30   |                       |  |  |                                       |
| Is the site significantly dist   |  |  | No  |   |                       |  |  |                                       |
| Is the area a potential prob   |  |  | No  |   |                       |  |  |                                       |
|  |  | ·····  |   |   |                       |  |  |                                       |
| Vegetation:  | Dominant Pla   | nt Species   |   |   |                       |  |  |                                       |
| Herb Stratum<br>Total cover: 20%   | Ind. status  | % Cover  | % rel. cover  | Tree Stratum<br>Total cover:                        | 10%                   | Ind. status  | % Cover  | % rel. cover                          |
| Gaillardia aristata  | UPL  | Т  |   | Salix lasiandra                                     | a [[lucida var.       | , FACW+  | 5%   | 50.0%                                 |
| Urtica dioica  | FAC+   | т  | ·   | Alnus rubra   |                       | FAC  | 5%   | 50.0%                                 |
| Ranunculus repens  | FACW   | 20%  | * 100.0%  | •••   |                       |  |  |                                       |
|  |  |  |   |   |                       |  | ••••••   |                                       |
|  |  |  | ·   | Sapling/ Shru<br>Total cover:                       | ub Stratum<br>50%     | Ind. status  | % Cover  | % rel. cover                          |
|  |  |  |   | Saalix sp.  |                       | FAC-FACW   | 35%  | 70.0%                                 |
| •  |  |  |   | Alnus rubra   |                       | FAC  | 5%   | 10.0%                                 |
|  |  |  |   |   | milara y tria         |  | 10%  | 20.0%                                 |
|  |  |  |   | Populus balsa                                       | innera v. inc         |  | 10 /0  | 20.076                                |
|  |  |  |   |   | E                     | of   | 5  | = 100%                                |
| Percent of dominant speci<br>Remarks:  | es that are OB   | L, FACVV, and  | or FAC :  |   | 5                     | - 01   |  |                                       |
| Soils:   |  |  |   |   |                       |  |  |                                       |
|  |  |  |   |   |                       |  |  |                                       |
| Map Unit Name:   | Woodburn silt  | loam, 3-8%   |   | _Drainage Cla                                       |                       | moderately we  |  |                                       |
| Taxonomy:  | Aquultic Argixe  | erolls   |   | Hydric soil?  | No                    | Hydric inclus  | ions?  | Yes                                   |
| Depth Horizon  |  |  |   |   |                       |  |  |                                       |
|  | Matrix Color   |  | Redox Conc.   | Redox Desc.   |                       | Texture/Structu  | ire/etc  |                                       |
| 0-6"   | Matrix Color<br>10 YR 4/2  |  | Redox Conc.<br>10 YR 5/6  | Redox Desc.<br>common/med/d                         | st                    | Texture/Structu<br>silty clay w/ grav  |  | 7                                     |
|  |  |  |   |   |                       |  |  | · · · · · · · · · · · · · · · · · · · |
| 0-6"   | 10 YR 4/2  |  | 10 YR 5/6   | common/med/d  | n                     | silty clay w/ grav   |  |                                       |
| 0-6"<br>6-10"<br>10-16"  | 10 YR 4/2<br>2.5 Y 6/1   | <br>   | 10 YR 5/6<br>10 YR 5/6  | common/med/d<br>many/large/pron                     | n                     | silty clay w/ grav<br>clay w/ gravel   |  | ,                                     |
| 0-6"<br>6-10"  | 10 YR 4/2<br>2.5 Y 6/1   |  | 10 YR 5/6<br>10 YR 5/6  | common/med/di<br>many/large/pron<br>many/large/pron | n                     | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel   |  | )                                     |
| 0-6"<br>6-10"<br>10-16"<br>Hydric soil indicators:   | 10 YR 4/2<br>2.5 Y 6/1   |  | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6   | common/med/di<br>many/large/pron<br>many/large/pron | n                     | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak   | el   |                                       |
| 0-6"<br>6-10"<br>10-16"<br>Hydric soil indicators:<br>Histosol   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4   | Redox.   | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions  | common/med/di<br>many/large/pron<br>many/large/pron | n                     | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic pr   | el<br>ing (in sandy soils)   | )                                     |
| 0-6"<br>6-10"<br>10-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4   | Redox.<br>Concretions/Nodu   | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"  | common/med/di<br>many/large/pron<br>many/large/pron | n                     | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic pr   | el<br>ing (in sandy soils)<br>pan (in sandy soils)   | )                                     |
| 0-6"<br>6-10"<br>10-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor  | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4   | Redox.<br>Concretions/Nodu   | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm   | common/med/di<br>many/large/pron<br>many/large/pron | n                     | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic pr   | el<br>ing (in sandy soils)<br>pan (in sandy soils)<br>Dn Hydric Soils Lis  | )                                     |
| 0-6"<br>6-10"<br>10-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma X   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4   | Redox.<br>Concretions/Nodu   | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm   | common/med/di<br>many/large/pron<br>many/large/pron | n                     | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic pr   | el<br>ing (in sandy soils)<br>pan (in sandy soils)<br>Dn Hydric Soils Lis  | )                                     |
| 0-6"<br>6-10"<br>10-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma X<br>Remarks:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4   | Redox.<br>Concretions/Nodu   | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm   | common/med/di<br>many/large/pron<br>many/large/pron | n<br>n<br>Strm. gauge | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic r  | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>Dn Hydric Soils Lis<br>Other<br>Other:   | )                                     |
| 0-6"<br>6-10"<br>10-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma X<br>Remarks:<br>Hydrology:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4   | Redox.<br>Concretions/Nodu<br>nic content in sur   | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils   | common/med/di<br>many/large/pron<br>many/large/pron | n<br>n<br>Strm. gauge | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic pr   | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>Dn Hydric Soils Lis<br>Other<br>Other:   | )                                     |
| 0-6"<br>6-10"<br>10-16"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma X<br>Remarks:<br>Hydrology:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4   | Redox.<br>Concretions/Nodu<br>nic content in sur   | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic r  | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>Dn Hydric Soils Lis<br>Other<br>Other:<br>logy Indicators  | )                                     |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available?   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>(<br>High organ  | Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u>                             | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u>   | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Corganic p<br>condary Hydro<br>d Root Channe   | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>Dn Hydric Soils Lis<br>Other<br>Other:<br>logy Indicators  | )                                     |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>G<br>High organ<br>Yes<br>NONE   | Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u>                             | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reak<br>Organic p<br>Condary Hydro<br>d Root Channe<br>Water-s   | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>Dn Hydric Soils Lis<br>Other<br>Other:<br>logy Indicators<br>els (upper 12'')  | )                                     |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation:  | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>C<br>High organ<br>Yes<br><u>NONE</u><br>surface                                 | Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u>                             | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>Dn Hydric Soils Lis<br>Other<br>Other:<br><u>logy Indicators</u><br>els (upper 12'')<br>stained leaves                     | )                                     |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>C<br>High organ<br>Yes<br><u>NONE</u><br>surface                                 | Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate                 | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>on Hydric Soils Lis<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data<br>C-Neutral Test |                                       |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>C<br>High organ<br>Yes<br><u>NONE</u><br>surface                                 | Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi         | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>rd in upper 12"<br>Water marks<br>Drift lines<br>iment deposits                                  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>Dn Hydric Soils Lis<br>Other:<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data         | )                                     |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>C<br>High organ<br>Yes<br><u>NONE</u><br>surface                                 | Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi         | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>on Hydric Soils Lis<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data<br>C-Neutral Test |                                       |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water: Remarks:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>High organ<br>Yes<br>NONE<br>surface<br>12"                                      | Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi         | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>rd in upper 12"<br>Water marks<br>Drift lines<br>iment deposits                                  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>on Hydric Soils Lis<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data<br>C-Neutral Test |                                       |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water:  | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>High organ<br>Yes<br>NONE<br>surface<br>12"                                      | Redox.<br>Concretions/Nodu<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi         | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>rd in upper 12"<br>Water marks<br>Drift lines<br>iment deposits                                  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>on Hydric Soils Lis<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data<br>C-Neutral Test |                                       |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water: Remarks:   | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>High organ<br>Yes<br>NONE<br>surface<br>12"                                      | Redox.<br>Concretions/Nodu-<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>rd in upper 12"<br>Water marks<br>Drift lines<br>iment deposits                                  | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>on Hydric Soils Lis<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data<br>C-Neutral Test |                                       |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water: Remarks: Wetland Determinatio  | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>High organ<br>Yes<br>NONE<br>surface<br>12"<br>Dn:<br>ion criterion m            | Redox.<br>Concretions/Nodu-<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (win 10"<br>iles (win 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>image patterns                                   | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>on Hydric Soils Lis<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data<br>C-Neutral Test |                                       |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water: Remarks: Wetland Determinatio Is the hydrophytic vegetati                              | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>Yes<br>NONE<br>surface<br>12"<br>Dn:<br>ion criterion m<br>met?                  | Redox.<br>Concretions/Nodu-<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (win 10"<br>iles (win 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>image patterns<br>YES                            | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>on Hydric Soils Lis<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data<br>C-Neutral Test |                                       |
| 0-6" 6-10" 10-16" Hydric soil indicators: Histosol Hist. Epipedon Sulfidic Odor Gley/low chroma X Remarks: Hydrology: Recorded Data Available? Depth of inundation: Depth to saturation: Depth to free water: Remarks: Wetland Determinatic Is the hydrophytic vegetati Is the hydric soil criterion | 10 YR 4/2<br>2.5 Y 6/1<br>7.5 YR 4/4<br>Ves<br>NONE<br>surface<br>12"<br>On:<br>ion criterion m<br>met?<br>riterion met? | Redox.<br>Concretions/Nodu-<br>nic content in sur<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 10 YR 5/6<br>10 YR 5/6<br>10 YR 5/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>inage patterns<br>YES<br>YES | common/med/di<br>many/large/pron<br>many/large/pron | n<br>Strm. gauge      | silty clay w/ grav<br>clay w/ gravel<br>clay w/ gravel<br>Organic streak<br>Organic streak<br>Organic reaction<br>of the streak<br>Organic streak<br>O | el<br>ing (in sandy soils)<br>ban (in sandy soils)<br>on Hydric Soils Lis<br>Other:<br>logy Indicators<br>els (upper 12'')<br>stained leaves<br>il Survey Data<br>C-Neutral Test |                                       |

| Damascus Natu  | ral Foatures                                       | Invento               | r\/   |                              | WETLAND:          | RO-A-02         |                            | _            |
|--|--|-----------------------|---|------------------------------|-------------------|-----------------|----------------------------|--------------|
| Location:  | East of Hwy 21                                     |                       | -   |                              | Map No:           | F1              |                            |              |
| Cowardin Class:  | PFO, PEM   | 2/224 11(61360        | 54011   | -                            | Plot No:          | DP 2            |                            |              |
| HGM Class:   | S/V  |                       |   | -                            | WET/UPL:          | UPL             |                            |              |
| Field Investigator(s):                                 | ACS/TB/RR  |                       |   | -                            | Date:             | 3/9/2007        |                            |              |
| Recent Weather:  |  | last 14 days:         | 17% above avera                               | Iae                          |                   |                 |                            |              |
| Do normal conditions ex                                |  |                       | Yes   |                              | 2                 | <i>u</i> - 1    |                            |              |
| Is the site significantly of                           |  |                       | No  |                              |                   |                 |                            |              |
| Is the area a potential pi                             |  |                       | No  |                              |                   |                 |                            |              |
|  |  |                       |   |                              |                   |                 |                            |              |
| Vegetation:  | Dominant Pla                                       | nt Species            |   |                              |                   | · · · · · ·     |                            |              |
| Herb Stratum<br>Total cover: 44                        | Ind. status<br>0%                                  | % Cover               | % rel. cover                                  | Tree Stratum<br>Total cover: | <b>ا</b><br>20%   | Ind. status     | % Cover                    | % rel. cover |
| Ranunculus repens                                      | FACW   | 30%                   | 75.0%   | Populus balsa                |                   | -               | 10%                        | 50.0%        |
| Unidentified forb                                      | unk  | 10%                   | 25.0%   | Salix lasiandr               |                   |                 | 10%                        | 50.0%        |
| Geum macrophyllum                                      | FACW+  | T                     |   |                              | - 11              |                 |                            |              |
| • · · · · · · · · · · · · · · · · · · ·                |  |                       |   |                              | <del></del>       | <u></u>         |                            |              |
|  | ······   |                       | · ·····                                       | Sapling/ Shr                 | ub Stratum<br>20% | Ind. status     | % Cover                    | % rel. cover |
|  |  |                       |   | Total cover:                 | 207               | •<br>FAC-FACW   | 10%                        | 50.0%        |
|  |  |                       |   | Salix sp.<br>Rubus discolo   | or ID ormania     |                 | 10%                        | 50.0%        |
|  |  |                       |   | Rubus discold                |                   |                 |                            |              |
| <u></u>  | <u></u>  |                       |   |                              |                   |                 |                            |              |
| Percent of dominant spo<br>Remarks: Unidentifie        | ecies that are OBI<br>ed forb not counted          |                       |   |                              | 4                 | of              | 5                          | = 80%        |
| Soils:   |  |                       |   |                              |                   |                 |                            |              |
| Map Unit Name:   | Woodburn silt                                      | loam. 3-8%            |   | Drainage Cla                 | iss:              | moderately we   | ll drained                 |              |
| Taxonomy:  | Aquultic Argixe                                    |                       |   | Hydric soil?                 | No                | Hydric inclusi  |                            | Yes          |
| Depth Horizon  | Matrix Color                                       |                       | Redox Conc.                                   | Redox Desc.                  |                   | Texture/Structu |                            |              |
| 0-6"   | 10 YR 4/2  |                       |   |                              |                   | silty clay loam |                            |              |
| 6-16"  | 10 YR 4/2  |                       | 10YR 5/6                                      | common/fine/fa               | int               | silty clay loam |                            |              |
| Hydric soil indicators:                                |  |                       |   |                              |                   |                 |                            |              |
| Histosol   |  |                       | Reducing Conditions                           |                              | -                 | -               | ng (in sandy soils         |              |
| Hist. Epipedon   |  |                       | Features (w/in 10")                           |                              | -                 |                 | an (in sandy soils         |              |
| Sulfidic Odor<br>Gley/low chroma X                     |  |                       | ules (w/in 3"; >2mm)<br>face (in sandy soils) |                              | -                 | 0               | n Hydric Soils Lis<br>Othe |              |
|  | sitional here                                      | ne content in sur     | ace (in sandy sons,                           | ·                            | -                 |                 | otho                       | ·            |
| Hydrology:   |  |                       |   |                              |                   |                 |                            |              |
| Recorded Data Available                                | e? Yes   |                       | Aerial photos                                 | x                            | Strm. gauge       |                 | Other:                     |              |
| Necorded Data Available                                |  | Primony Lude          | ology Indicators                              | <u>X</u>                     |                   | econdary Hydrol |                            |              |
| Dopth of inundation:                                   | NONE   | <u>Fillinary Hyur</u> | Inundated                                     |                              |                   | d Root Channe   |                            |              |
| Depth of inundation:<br>Depth to saturation:           | 12"  | Saturat               | ed in upper 12"                               |                              | -                 |                 | tained leaves              | <u>.</u>     |
| Depth to free water:                                   | 13"  | Qatalat               | Water marks                                   |                              | -                 |                 | Survey Data                |              |
| -open to not water.                                    | <u></u>  |                       | Drift lines                                   |                              | -                 |                 | -Neutral Test              |              |
|  |  | Sed                   | iment deposits                                |                              | -                 |                 | Other:                     |              |
|  |  |                       | inage patterns                                |                              | -                 |                 |                            | <u></u>      |
| Remarks:   |  |                       |   |                              | -                 |                 |                            |              |
|  |  |                       |   |                              |                   |                 |                            |              |
| Wetland Determina                                      | tion:  |                       |   | 5                            |                   |                 |                            |              |
| Wetland Determina                                      |  | et?                   | YES   | 3                            | <u></u>           |                 |                            |              |
|  | tation criterion me                                | ət?                   | YES<br>YES                                    |                              | <u></u>           |                 |                            |              |
| Is the hydrophytic vege                                | tation criterion me                                | ət?                   |   |                              | <u></u>           |                 |                            |              |
| Is the hydrophytic vege<br>Is the hydric soil criterio | tation criterion me<br>on met?<br>y criterion met? | ət?                   | YES   |                              |                   |                 | ·                          |              |

| Damascus Natura<br>Location:<br>Cowardin Class:<br>HGM Class: | North of Orcha<br>POW, PEM<br>RFT  |  | ГУ<br>  |  | WETLAND:<br>Map No:<br>Plot No:<br>WET/UPL: | : F1<br>: DP 1   |  |              |  |
|---|--|--|---|--|---|--|--|--------------|--|
| Field Investigator(s):  | ACS/TB   |  |   | -  | Date:                                       | 4/4/2007   |  |              |  |
| Recent Weather:   | 3.26" of rain in   | last 14 days; 6  | 69% above avera   | -<br>age   |   | 6  |  |              |  |
| Do normal conditions exist                                    |  |  | Yes   |  |   |  |  |              |  |
| Is the site significantly dist                                |  |  | No  |  |   |  |  |              |  |
| Is the area a potential prob                                  |  |  | No  |  |   |  |  |              |  |
|   | ioni aroa i  |  |   |  |   |  |  |              |  |
| Vegetation:   | Dominant Pla   | nt Species   |   |  |   |  |  |              |  |
| Herb Stratum<br>Total cover: 80%                              |  | % Cover  | % rel. cover  | Tree Stratum<br>Total cover:   | 0%  | Ind. status  | % Cover  | % rel. cover |  |
| Glyceria elata  | FACW+  | * 60%  | 75.0%   |  |   |  |  |              |  |
| Veronica americana  | OBL  | 10%  | 12.5%   |  |   |  |  |              |  |
| Athyrium filix-femina   | FAC  | 5%   | 6.3%  |  |   |  |  |              |  |
| Ranunculus repens   | FACW   | 5%   | 6.3%  |  |   |  |  |              |  |
| Lysichitum [[Lysichiton]] ame                                 | e OBL  | Т  |   |  |   |  |  |              |  |
| Solanum dulcamara   | FAC+   | т  |   | Sapling/ Shr   | ub Stratum                                  | Ind. status  | % Cover  | % rel. cover |  |
|   |  |  |   | Total cover:   | 0%  | ,<br>D   |  |              |  |
|   |  | ······   |   |  |   |  |  |              |  |
| Percent of dominant speci<br>Remarks: Blackberry ex           | es that are OB   |  | /or FAC :   |  | 1   | of   | 1  | = 100%       |  |
| Soils:  |  |  |   |  |   |  |  |              |  |
|   |  |  |   |  |   |  |  |              |  |
| Map Unit Name:  | Bornstedt silt I   | oam, 15-30%  |   | Drainage Cla   | SS:   | moderately we  | ll drained   |              |  |
|   |  |  |   |  |   |  |  |              |  |
| Taxonomy:   | typic haproxer   | ults   |   | Hydric soil?   | No  | Hydric inclusi   |  | Yes          |  |
| Taxonomy:<br>Depth Horizon                                    | typic haproxer<br>Matrix Color   | ults   | Redox Conc.   |  |   |  | ions?  | Yes          |  |
|   |  | ults   | <b>Redox Conc.</b><br>7.5 YR 5/1  | Hydric soil?   | No  | Hydric inclusi   | ions?  | Yes          |  |
| Depth Horizon   | Matrix Color   | ults   |   | Hydric soil?<br>Redox Desc.<br>common, med,  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu  | ions?  | Yes          |  |
| Depth Horizon   | Matrix Color   | ults   | 7.5 YR 5/1  | Hydric soil?<br>Redox Desc.<br>common, med,  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam   | ions?  | Yes          |  |
| Depth Horizon   | Matrix Color   | ults   | 7.5 YR 5/1  | Hydric soil?<br>Redox Desc.<br>common, med,  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam   | ions?  | Yes          |  |
| Depth Horizon<br>0-18"  | Matrix Color   | R  | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions   | Hydric soil?<br>Redox Desc.<br>common, med,<br>many, med, dis  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam<br>around depletions<br>Organic streaki   | ions?<br>re/etc<br>ing (in sandy soils   | )            |  |
| Depth Horizon 0-18" Hydric soil indicators:                   | Matrix Color   | R  | 7.5 YR 5/1<br>7.5 YR 4/6  | Hydric soil?<br>Redox Desc.<br>common, med,<br>many, med, dis  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam<br>around depletions<br>Organic streaki   | ions?<br>re/etc  | )            |  |
| Depth     Horizon       0-18"                                 | Matrix Color<br>10 YR 4/1 - 4/2  | R<br>Redox.<br>Concretions/Nodu  | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm  | Hydric soil?<br>Redox Desc.<br>common, med,<br>many, med, dis  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam<br>around depletions<br>Organic streaki<br>Organic p  | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis  | )<br>t       |  |
| Depth     Horizon       0-18"                                 | Matrix Color<br>10 YR 4/1 - 4/2  | R<br>Redox.<br>Concretions/Nodu  | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"   | Hydric soil?<br>Redox Desc.<br>common, med,<br>many, med, dis  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam<br>around depletions<br>Organic streaki<br>Organic p  | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils   | )<br>t       |  |
| Depth     Horizon       0-18"                                 | Matrix Color<br>10 YR 4/1 - 4/2  | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf   | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm  | Hydric soil?<br>Redox Desc.<br>common, med,<br>many, med, dis  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam<br>around depletions<br>Organic streaki<br>Organic p  | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis  | )<br>t       |  |
| Depth     Horizon       0-18"                                 | Matrix Color<br>10 YR 4/1 - 4/2<br>High orga   | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf   | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm  | Hydric soil?<br>Redox Desc.<br>common, med,<br>many, med, dis  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam<br>around depletions<br>Organic streaki<br>Organic p  | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis  | )<br>t       |  |
| Depth     Horizon       0-18"                                 | Matrix Color<br>10 YR 4/1 - 4/2<br>High orga   | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf   | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm  | Hydric soil?<br>Redox Desc.<br>common, med,<br>many, med, dis  | No<br>dist. in matrix                       | Hydric inclusi<br>Texture/Structu<br>silt loam<br>around depletions<br>Organic streaki<br>Organic p  | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis  | )<br>t       |  |
| Depth     Horizon       0-18"                                 | Matrix Color<br>10 YR 4/1 - 4/2<br>UNR 4/1 - 4/2<br>High organ<br>previous inund   | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area  | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils  | Hydric soil?<br>Redox Desc.<br>common, med,<br>many, med, disi<br>X  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt loam<br>around depletions<br>Organic streaki<br>Organic p  | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>on Hydric Soils Lis<br>Othe<br>Other:  | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>(<br>High organ<br>previous inund<br>Yes  | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area  | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>cology Indicators</u>   | Hydric soil?         Redox Desc.         common, med,         many, med, disi         X         X  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic p<br>O   | ions?<br>re/etc<br>ing (in sandy soils<br>ian (in sandy soils<br>ian (in sandy soils<br>ian Hydric Soils Lis<br>Othe<br>Other:<br>ogy Indicators   | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>(<br>High organ<br>previous inund<br>Yes<br>NONE  | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u>                            | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated   | Hydric soil?         Redox Desc.         common, med,         many, med, disi         X         X         X  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>O  | ions?<br>re/etc<br>ing (in sandy soils<br>ian (in sandy soils<br>ian (in sandy soils<br>is n Hydric Soils Lis<br>Othe<br>Other:<br>iogy Indicators<br>Is (upper 12'')                              | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>(<br>High organ<br>previous inund<br>Yes<br>NONE<br>surface   | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u>                            | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"   | Hydric soil?       Redox Desc.       common, med,       many, med, disi       X       X       X       X       X       X  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s              | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>an (in sandy soils<br>bn Hydric Soils Lis<br>Other:<br>Other:<br><u>oqy Indicators</u><br>Is (upper 12'')<br>tained leaves         | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>(<br>High organ<br>previous inund<br>Yes<br>NONE  | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u>                            | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks  | Hydric soil?         Redox Desc.         common, med,         many, med, disi         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data                    | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>(<br>High organ<br>previous inund<br>Yes<br>NONE<br>surface   | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate                | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines   | Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Xarthold       Xarthold | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>(<br>High organ<br>previous inund<br>Yes<br>NONE<br>surface   | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi        | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits   | Hydric soil?         Redox Desc.         common, med,         many, med, disi         X         X         X         X         X         X         X         X         X         X         X         X         X         X         X  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other<br>Other:<br>ogy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data                    | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>High organ<br>previous inund<br>Yes<br>NONE<br>surface<br>1"  | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi        | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines   | Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Xarthold       Xarthold | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>High organ<br>previous inund<br>Yes<br>NONE<br>surface<br>1"  | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi        | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits   | Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Xarthold       Xarthold | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>U YR 4/1 - 4/2<br>High organ<br>previous inund<br>Yes<br>NONE<br>surface<br>1"<br>vegetation  | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi        | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>les (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits   | Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Xarthold       Xarthold | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>10 YR 4/1 - 4/2<br>High organ<br>previous inund<br>Yes<br><u>NONE</u><br><u>surface</u><br>1"<br>vegetation<br><b>on:</b>                       | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (win 10"<br>les (win 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>image patterns   | Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Karthold       Xarthold       Xarthold | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>10 YR 4/1 - 4/2<br>High organ<br>previous inund<br>Yes<br><u>NONE</u><br><u>surface</u><br>1"<br>vegetation<br>on criterion m                   | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (win 10"<br>les (win 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>inage patterns                         | Karakara       Karakara       Karakara       Karakara       Karakara       Karakara       Xarakara  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>10 YR 4/1 - 4/2<br>High organ<br>previous inund<br>Yes<br><u>NONE</u><br><u>surface</u><br>1"<br>vegetation<br>on criterion m<br>met?           | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (wiin 10"<br>les (win 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>image patterns<br><u>YES</u><br>YES                     | Karakara       Karakara       Karakara       Karakara       Karakara       Karakara       Xarakara  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>10 YR 4/1 - 4/2<br>High organ<br>previous inund<br>Yes<br><u>NONE</u><br>surface<br>1"<br>vegetation<br>on criterion m<br>met?<br>riterion met? | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (w/in 10"<br>iles (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>inage patterns<br>YES<br>YES<br>YES | Karakara       Karakara       Karakara       Karakara       Karakara       Karakara       Xarakara  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |
| Depth       Horizon         0-18"                             | Matrix Color<br>10 YR 4/1 - 4/2<br>10 YR 4/1 - 4/2<br>High organ<br>previous inund<br>Yes<br><u>NONE</u><br>surface<br>1"<br>vegetation<br>on criterion m<br>met?<br>riterion met? | R<br>Redox.<br>Concretions/Nodu<br>nic content in surf<br>ated area<br><u>Primary Hydro</u><br>Saturate<br>Sedi<br>Dra | 7.5 YR 5/1<br>7.5 YR 4/6<br>Reducing Conditions<br>Features (wiin 10"<br>les (win 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>blogy Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>image patterns<br><u>YES</u><br>YES                     | Karakara       Karakara       Karakara       Karakara       Karakara       Karakara       Xarakara  | No<br>dist. in matrix<br>. in matrix and a  | Hydric inclusi<br>Texture/Structu<br>silt Ioam<br>around depletions<br>Organic streaki<br>Organic streaki<br>Organic p<br>C<br>dradie<br>Condary Hydrol<br>d Root Channe<br>Water-s<br>Local Soi | ions?<br>re/etc<br>ing (in sandy soils<br>an (in sandy soils<br>in Hydric Soils Lis<br>Other:<br>Other:<br>oqy Indicators<br>Is (upper 12'')<br>itained leaves<br>il Survey Data<br>C-Neutral Test | )<br>t       |  |

| Damascus Natura                 | I Features       | Invento             | <b>v</b>                          |                 | WETLAND:        | RO-A-03         |                     |              |
|---------------------------------|------------------|---------------------|-----------------------------------|-----------------|-----------------|-----------------|---------------------|--------------|
| Location:                       | North of Orcha   |                     |                                   |                 | Map No:         | F1              |                     |              |
| Cowardin Class:                 |                  |                     |                                   | -               | Plot No:        | DP 2            |                     |              |
| HGM Class:                      |                  |                     |                                   | •               | WET/UPL:        | UPL             |                     | ·····        |
| Field Investigator(s):          | ACS/TB           |                     |                                   | •               | Date:           | 4/4/2007        |                     |              |
| Recent Weather:                 |                  | last 14 days:       | 69% above avera                   | ae              |                 |                 |                     |              |
| Do normal conditions exis       |                  |                     | Yes                               | .9-             |                 |                 |                     |              |
| Is the site significantly dis   |                  |                     | No                                |                 |                 |                 |                     |              |
| Is the area a potential prot    |                  |                     | No                                |                 |                 |                 |                     |              |
| is the area a potential pro-    |                  |                     |                                   |                 |                 |                 |                     |              |
| Vegetation:                     | Dominant Pla     | nt Species          |                                   |                 |                 |                 |                     |              |
| Herb Stratum                    | Ind. status      | % Cover             | % rel. cover                      | Tree Stratum    | -               | Ind. status     | % Cover             | % rel. cover |
| Total cover: 30%                |                  |                     |                                   | Total cover:    | 0%              | ó               |                     |              |
| Cardamine oligosperma           | FAC              | 15%                 | 50.0%                             |                 |                 |                 |                     |              |
| Epilobium species               | -                | 5%                  | 16.7%                             | 10-10-10-1      |                 |                 | <u></u>             | ····         |
| Geum macrophyllum               | FACW+            | т                   |                                   |                 |                 |                 |                     |              |
| Tellima grandiflora             | UPL              | Т                   |                                   |                 |                 |                 |                     |              |
| Athyrium filix-femina           | FAC              | Т                   |                                   |                 |                 |                 |                     |              |
| Geranium robertianum            | UPL              | <u> </u>            |                                   | Sapling/ Shr    |                 | Ind. status     | % Cover             | % rel. cover |
| Ranunculus repens               | FACW             | 5%                  | 16.7%                             | Total cover:    | 20%             |                 |                     |              |
| Polystichum munitum             | FACU             | 5%                  | 33.3%                             | Corylus corn    |                 | FACU            | 10%                 | 50.0%        |
|                                 |                  |                     |                                   | Rubus discol    |                 |                 | 10%                 | 2.4%         |
|                                 |                  |                     |                                   | llex aquifoliur | n               | UPL             | T                   |              |
|                                 |                  |                     |                                   |                 |                 |                 |                     |              |
|                                 |                  |                     |                                   |                 |                 | - f             |                     |              |
| Percent of dominant spec        | ies that are OBI | _, FACW, and        | /or FAC :                         |                 | 1               |                 | 4                   | = 25%        |
|                                 |                  |                     | >90% before rem                   | oval. Corridor  | also has FRL    | A, THPL, ACMA   | , POBA. PSMI        | = on         |
|                                 | ground. Some     | SARA.               |                                   |                 |                 |                 |                     |              |
| Soils:                          |                  |                     |                                   |                 |                 |                 |                     |              |
|                                 | -                |                     |                                   |                 |                 |                 | U due in e d        |              |
| Map Unit Name:                  | Bornstedt        | 0                   |                                   | Drainage Cla    | ass:            | moderately we   |                     |              |
| Taxonomy:                       | typic haproxeru  | ults                |                                   | Hydric soil?    |                 | Hydric inclusi  |                     |              |
| Depth Horizon                   | Matrix Color     |                     | Redox Conc.                       | Redox Desc.     |                 | Texture/Structu | re/etc              |              |
| 0-7"                            | 10 YR 3/3        |                     |                                   |                 |                 | silt loam       |                     |              |
| 7-18"                           | 7.5 YR 4/4       |                     |                                   |                 |                 | silt loam       |                     |              |
| Hydric soil indicators:         |                  |                     |                                   |                 |                 |                 |                     |              |
| Histosol                        |                  | F                   | Reducing Conditions               |                 |                 | Organic streaki | ing (in sandy soils | 3            |
| Hist. Epipedon                  | -                |                     | . Features (w/in 10")             | 100             | -               | -               | an (in sandy soils  |              |
| Sulfidic Odor                   | - c              |                     | ules (w/in 3"; >2mm)              |                 | -               |                 | n Hydric Soils Lis  |              |
| Gley/low chroma                 | High organ       | nic content in sur  | face (in sandy soils)             | )               | _               |                 | Othe                | er           |
| Remarks:                        |                  |                     |                                   |                 |                 |                 |                     |              |
|                                 | 811              |                     |                                   |                 |                 |                 |                     |              |
| Hydrology:                      |                  |                     |                                   |                 |                 |                 |                     |              |
| Deserved and Date Associately 2 | Vee              |                     | A anial mhataa                    | v               | Strm. gougo     |                 | Other:              |              |
| Recorded Data Available?        | Yes              | Drimon, Hudr        | Aerial photos<br>ology Indicators | <u>×</u>        | _Strm. gauge    | econdary Hydrol |                     |              |
| Donth of inundations            |                  | <u>Filling</u> Hyun | Inundated                         |                 |                 | ed Root Channe  |                     |              |
| Depth of inundation:            |                  | Saturat             |                                   |                 | - 07/0/26       |                 | tained leaves       |              |
| Depth to saturation:            |                  | Saturati            | ed in upper 12"<br>Water marks    |                 | -               |                 | il Survey Data      |              |
| Depth to free water:            |                  |                     | Drift lines                       |                 | -               |                 | C-Neutral Test      |              |
|                                 |                  | Sod                 |                                   |                 | _               | FAV             | Other:              |              |
|                                 |                  |                     | iment deposits                    |                 | -               |                 | Other.              |              |
|                                 |                  |                     | inage patterns                    |                 | _               |                 |                     |              |
| Remarks: About 3' abo           | ve toe of slope. | No nyaro. Ina       | ICators                           |                 |                 |                 |                     |              |
| Wetland Determination           | on:              |                     |                                   |                 |                 | · ·             |                     |              |
| Is the hydrophytic vegetat      | ion criterion m  | et?                 | NO                                |                 |                 |                 |                     |              |
| Is the hydric soil criterion    |                  |                     | NO                                |                 |                 |                 |                     |              |
| Is the specific hydrology of    |                  |                     | NO                                |                 |                 |                 |                     |              |
| Is this sampling point with     |                  |                     | NO                                |                 |                 |                 |                     |              |
|                                 |                  | by elone wer        |                                   | nt: watar agus  | o ie otroom     |                 | from clone          |              |
| Comments: Boundary @            | toe well defined | i by slope, veg     | , inundation exte                 | ni, water sourd | le is stream, s | saw no seepage  | nom siope.          |              |

| Damascus Natura                                  | al Features                          | Invento       | rv             |  | WETLAND:          | RO-D-01         |                                       |              |
|--|--------------------------------------|---------------|----------------|--|-------------------|-----------------|---------------------------------------|--------------|
| Location:  | West of Foster                       |               | -              |  | Map No:           | A2, B2          |                                       |              |
| Cowardin Class:                                  | PFO, PEM, PC                         |               |                |  | Plot No:          | DP 1            |                                       |              |
| HGM Class:                                       | SH                                   |               |                |  | WET/UPL:          | WET             |                                       |              |
| Field Investigator(s):                           | ACS/TB/MB                            |               |                |  | Date:             | 3/6/2007        |                                       |              |
| Recent Weather:                                  | 3.22" of rain in                     | last 14 days; | 139% of normal | -                                      |                   |                 |                                       |              |
| Do normal conditions exis                        | st on the site?                      |               | Yes            |  |                   |                 | · · · · · · · · · · · · · · · · · · · |              |
| Is the site significantly dis                    | sturbed?                             |               | No             |  |                   |                 |                                       |              |
| Is the area a potential pro                      | blem area?                           |               | No             |  |                   |                 |                                       |              |
| Vegetation:                                      | Dominant Pla                         | nt Species    |                |  |                   |                 |                                       | ··· · ·      |
| Herb Stratum                                     | Ind. status                          | % Cover       | % rel. cover   | Tree Stratun                           | n ,               | Ind. status     | % Cover                               | % rel. cover |
| Total cover: 90%                                 | 6                                    |               |                | Total cover:                           | 0%                | 6               |                                       |              |
| Juncus effusus                                   | FACW                                 | ' 60%         | 66.7%          |  |                   |                 |                                       |              |
| Lotus corniculatus                               | FAC                                  | 5%            | 5.6%           |  |                   |                 |                                       |              |
| Phalaris arundinacea                             | FACW                                 | 5%            | 5.6%           |  |                   |                 |                                       |              |
| Agrostis tenuis [[capillaris]]                   | FAC                                  | 20%           | * 22.2%        |  |                   |                 |                                       | ,            |
|  |                                      |               | -              | Sapling/ Shi<br>Total cover:           | rub Stratum<br>0% | Ind. status     | % Cover                               | % rel. cover |
|  |                                      |               |                | Rubus discol                           | lor [R. armenia   | ac FACU         | T                                     |              |
|  |                                      |               |                | •••••••••••••••••••••••••••••••••••••• |                   |                 |                                       |              |
| Percent of dominant spec<br>Remarks: Edge of Pha | ies that are OBI<br>laris dominance. |               |                | noculture lowe                         | 2<br>r down.      | of              | 2                                     | = 100%       |
| Soils:   |                                      |               |                |  |                   | ······          |                                       |              |
| Map Unit Name:                                   | Huberly silt loa                     | ım, 0-3%      |                | Drainage Cl                            |                   | poorly drained  |                                       |              |
| Taxonomy:  | Typic Fragiaqu                       | lepts         |                | Hydric soil?                           | Yes               | Hydric inclus   | ions?                                 | Yes          |
| Davide Handman                                   | Matelin Calan                        | -             | Deday Cana     | Deday Deen                             |                   | Toxturo/Ctructu | roloto                                |              |

|               |               |                     |                            |                            | ,               |                        |  |
|---------------|---------------|---------------------|----------------------------|----------------------------|-----------------|------------------------|--|
| Depth         | Horizon       | Matrix Color        | Redox Conc.                | Redox Desc.                | Texture/Struct  | ure/etc                |  |
| 0-7"          |               | 10 YR 3/2           | 7.5 YR 4/4                 | matrix; common, med, prom. | silty clay loam |                        |  |
| 7-18"         |               | 2.5 Y 5/1           | 10 YR 4/6                  | matrix; many, med, prom.   | silty clay loam | clayier than above     |  |
| Hydric soi    | l indicators: |                     |                            |                            |                 |                        |  |
| Hist          | osol          |                     | Reducing Conditio          | ns                         | Organic strea   | king (in sandy soils)  |  |
| Hist. Epipe   | edon          |                     | Redox. Features (w/in 10   | ייט X                      | Organic         | pan (in sandy soils)   |  |
| Sulfidic C    | )dor          | Concretion          | s/Nodules (w/in 3"; >2mi   | m)                         |                 | On Hydric Soils List X |  |
| Gley/low chro | oma X         | High organic conten | t in surface (in sandy soi | ls)                        |                 | Other                  |  |

| Gley/low chroma | X                    | High organic content in surface (in sandy soils) |
|-----------------|----------------------|--|
| Remarks:        | Soils in area tend t | o perch  |
|                 |                      |  |

# Hydrology:

| Recorded Data Availab      | le? Yes             | Aerial photos                         | x         | Strm. gauge                   | Other:                      |  |
|----------------------------|---------------------|---------------------------------------|-----------|-------------------------------|-----------------------------|--|
|                            |                     | Primary Hydrology Indicators          |           | Secondary                     | Hydrology Indicators        |  |
| Depth of inundation:       | NONE                | Inundated                             |           | Oxidized Root C               | hannels (upper 12")         |  |
| Depth to saturation:       | 7"                  | Saturated in upper 12"                | Х         | <u> </u>                      | Vater-stained leaves        |  |
| Depth to free water:       | 9"                  | Water marks                           |           | Lo                            | cal Soil Survey Data        |  |
| •                          | <b></b>             | Drift lines                           |           |                               | FAC-Neutral Test            |  |
|                            |                     | Sediment deposits                     |           |                               | Other:                      |  |
|                            |                     | Drainage patterns                     |           |                               |                             |  |
| Remarks: Hummoc            | ky - some shallow   | ponding in interstitial spaces ne     | aby; Pri  | mary water source: seepage    | from side slopes into swale |  |
| at bottom                  | l.                  |                                       |           |                               |                             |  |
| Wetland Determina          | ation:              |                                       |           |                               |                             |  |
|                            |                     | · · · · · · · · · · · · · · · · · · · |           |                               |                             |  |
| Is the hydrophytic vege    | etation criterion r | net? YES                              |           |                               |                             |  |
| Is the hydric soil criteri | on met?             | YES                                   |           |                               |                             |  |
| Is the specific hydrolog   | gy criterion met?   | YES                                   |           |                               |                             |  |
| Is this sampling point     | within a wetland?   | YES                                   |           |                               |                             |  |
| Comments: Plot abov        | e bottom of swale   | at PHAR/RUDI dominance trans          | sition. W | later seeping from sideslopes | , flowing in from higher in |  |
| watershe                   | d (subsurface).     |                                       |           |                               |                             |  |

| Damascus Natur   | al Fosturos   | Invento   | m) /  |                               |                    | RO-D-01   |  |                 |  |
|--|---|---|---|-------------------------------|--------------------|---|--|-----------------|--|
|  |   |   |   |                               | WETLAND:           |   |  |                 |  |
| Location:  | West of Foster  | , north of Hem  | nrick Rd.   | -                             | Map No:            | A2, B2  |  |                 |  |
| Cowardin Class:  |   |   |   | -                             | Plot No:           | DP 2  |  |                 |  |
| HGM Class:   |   |   |   | _                             | WET/UPL:           | UPL   |  |                 |  |
| Field Investigator(s):   | ACS/TB/MB   |   |   | _                             | Date:              | 3/6/2007  | •  |                 |  |
| Recent Weather:  | 3.22" of rain in  | last 14 days;   | 139% of normal  | -                             |                    |   |  |                 |  |
| Do normal conditions exi   |   |   | Yes   |                               |                    |   |  |                 |  |
| Is the site significantly di   |   |   | No  |                               |                    |   |  |                 |  |
| Is the area a potential pro  |   |   | No  |                               |                    |   |  |                 |  |
| is the area a potential pro  |   |   |   |                               |                    |   |  |                 |  |
| Vegetation:  | Dominant Pla  | nt Species  |   | <u></u>                       |                    |   |  |                 |  |
|  |   | 0/ 0  | 0(  | Trac Strature                 |                    | Ind status  | % Cover  | % rol_covor     |  |
| Herb Stratum   | Ind. status   | % Cover   | % rel. cover  | Tree Stratum                  |                    | Ind. status   | % Cover  | % rel. cover    |  |
| Total cover: 100   |   |   |   | Total cover:                  | 0%                 | 0   |  |                 |  |
| Agrostis tenuis [[capillaris]]   | FAC   | <sup>,</sup> 70%  | 70.0%   |                               |                    |   |  |                 |  |
| Phalaris arundinacea   | FACW  | 10%   | 10.0%   |                               |                    |   |  |                 |  |
| Cirsium arvense  | FACU+   | 20%   | * 20.0%   |                               |                    |   |  |                 |  |
| Galium aparine   | FACU  | т   | ······································  |                               |                    |   |  | <u></u>         |  |
|  |   |   |   |                               | -                  |   |  |                 |  |
|  |   |   |   | Sapling/ Shr                  | ub Stratum         | Ind. status   | % Cover  | % rel. cover    |  |
| <u>.</u>   |   |   |   | Total cover:                  | 0% Official 0      |   | // 00101   | /0101100101     |  |
|  |   |   |   | Total cover.                  | 07                 | 0   |  |                 |  |
|  |   |   |   |                               |                    |   |  |                 |  |
|  |   |   |   |                               |                    |   |  |                 |  |
|  |   |   |   |                               |                    |   |  |                 |  |
|  |   |   |   |                               |                    |   |  |                 |  |
| -  |   |   |   |                               |                    |   |  |                 |  |
| Percent of dominant spec   | cies that are OB  | FACW and  | l/or FAC :  |                               | 1                  | of  | 2  | = 50%           |  |
|  | o dominant in this  |   |   |                               |                    |   |  |                 |  |
| Remarks: RUDI is als   | o dominant in the   |   |   |                               |                    |   |  |                 |  |
|  |   |   |   |                               |                    |   |  |                 |  |
| Soils:   |   |   |   |                               |                    |   |  |                 |  |
|  |   |   |   |                               |                    | ·····   |  |                 |  |
| Man Unit Nama:   | 1. 1 In   | 0.00/   |   | Desingers Cla                 |                    | nearly drained  |  |                 |  |
|  | Muberiv silt loa  | am. u-3%  |   | Drainade Cia                  | 55.                | poony dramed  |  |                 |  |
| Map Unit Name:   | Huberly silt loa  |   |   | _Drainage Cla<br>Hvdric soil? |                    | poorly drained<br>Hvdric inclus   | and the second   | Yes             |  |
| Taxonomy:  | Typic Fragiaqu  |   | Bodox Cono  | Hydric soil?                  | Yes                | Hydric inclus   | ions?  | Yes             |  |
| Taxonomy:<br>Depth Horizon   | Typic Fragiaqu<br>Matrix Color  |   | Redox Conc.   | -                             |                    | Hydric inclus<br>Texture/Structu  | ions?  | Yes             |  |
| Taxonomy:DepthHorizon0-14"   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2  | lepts   | Redox Conc.   | Hydric soil?                  |                    | Hydric inclus<br>Texture/Structu<br>silt loam   | ions?<br>re/etc  | Yes             |  |
| Taxonomy:<br>Depth Horizon   | Typic Fragiaqu<br>Matrix Color  | lepts   | Redox Conc.   | Hydric soil?                  |                    | Hydric inclus<br>Texture/Structu  | ions?<br>re/etc  | Yes             |  |
| Taxonomy:DepthHorizon0-14"   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2  | lepts   | Redox Conc.   | Hydric soil?                  |                    | Hydric inclus<br>Texture/Structu<br>silt loam   | ions?<br>re/etc  | Yes             |  |
| Taxonomy:DepthHorizon0-14"   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2  | lepts   | Redox Conc.   | Hydric soil?                  |                    | Hydric inclus<br>Texture/Structu<br>silt loam   | ions?<br>re/etc  | Yes             |  |
| Depth     Horizon       0-14"     14-17"   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2  | uepts<br>YR 4/3   | Redox Conc.   | Hydric soil?<br>Redox Desc.   |                    | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed i   | ions?<br>re/etc  |                 |  |
| Taxonomy:       Depth     Horizon       0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2  | Jepts<br>YR 4/3   |   | Hydric soil?<br>Redox Desc.   |                    | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed u<br>Organic streak<br>Organic p  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>pan (in sandy soils  | ;);)            |  |
| Taxonomy:         Horizon           Depth         Horizon           0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y  | Jepts<br>YR 4/3<br>F<br>Redox   | Reducing Condition  | Hydric soil?<br>Redox Desc.   |                    | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed u<br>Organic streak<br>Organic p  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils   | ;);)            |  |
| Taxonomy:         Horizon           Depth         Horizon           0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/ | Jepts<br>YR 4/3<br>Redox<br>Concretions/Node  | Reducing Condition<br>:. Features (w/in 10"   | Hydric soil?<br>Redox Desc.   |                    | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed u<br>Organic streak<br>Organic p  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>pan (in sandy soils  | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/ | Jepts<br>YR 4/3<br>Redox<br>Concretions/Node  | Reducing Condition<br>:. Features (w/in 10"<br>ules (w/in 3"; >2mm  | Hydric soil?<br>Redox Desc.   |                    | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed u<br>Organic streak<br>Organic p  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (in sandy soils<br>on Hydric Soils Lis   | s)<br>)<br>st X |  |
| Taxonomy:<br>Depth Horizon<br>0-14"<br>14-17"<br>Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/ | Jepts<br>YR 4/3<br>Redox<br>Concretions/Node  | Reducing Condition<br>:. Features (w/in 10"<br>ules (w/in 3"; >2mm  | Hydric soil?<br>Redox Desc.   |                    | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed u<br>Organic streak<br>Organic p  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (in sandy soils<br>on Hydric Soils Lis   | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/ | Jepts<br>YR 4/3<br>Redox<br>Concretions/Node  | Reducing Condition<br>:. Features (w/in 10"<br>ules (w/in 3"; >2mm  | Hydric soil?<br>Redox Desc.   |                    | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed u<br>Organic streak<br>Organic p  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (in sandy soils<br>on Hydric Soils Lis   | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/2 YR 4/ | Jepts<br>YR 4/3<br>Redox<br>Concretions/Node  | Reducing Condition<br>:. Features (w/in 10"<br>ules (w/in 3"; >2mm  | Hydric soil?<br>Redox Desc.   |                    | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed u<br>Organic streak<br>Organic p  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (in sandy soils<br>on Hydric Soils Lis   | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | Jepts<br>YR 4/3<br>Redox<br>Concretions/Node  | Reducing Condition<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils  | Hydric soil?<br>Redox Desc.   | Yes                | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic p   | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>pan (in sandy soils<br>on Hydric Soils Lis<br>Othe   | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Nodi<br>nic content in sui                                       | Reducing Condition<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos   | Hydric soil?<br>Redox Desc.   | Yes                | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed<br>Organic streak<br>Organic p<br>C   | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>ban (in sandy soils<br>ban Hydric Soils Lis<br>Other:  | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Nodi<br>nic content in sui                                       | Reducing Condition<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>ology Indicators</u>  | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt Ioam<br>silt Ioam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>ban (in sandy soils<br>ban Hydric Soils Lis<br>Other<br>Other:   | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Node<br>nic content in sur                                       | Reducing Condition<br>t. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>cology Indicators</u><br>Inundated   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>ban (in sandy soils<br>ban (in sandy soils<br>ban Hydric Soils Lis<br>Other<br>Other:<br><u>logy Indicators</u><br>Is (upper 12'')   | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Node<br>nic content in sur                                       | Reducing Condition<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>ology Indicators</u>  | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>droat streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>ban (in sandy soils<br>ban (in sandy soils<br>ban Hydric Soils Lis<br>Other:<br>Other:<br>logy Indicators<br>Is (upper 12'')<br>stained leaves   | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:       Hydrology:         Recorded Data Available       Depth of inundation:   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Node<br>nic content in sur                                       | Reducing Condition<br>t. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>cology Indicators</u><br>Inundated   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>droat streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>ban (in sandy soils<br>ban (in sandy soils<br>ban Hydric Soils Lis<br>Other<br>Other:<br><u>logy Indicators</u><br>Is (upper 12'')   | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:       Hydrology:         Recorded Data Available       Depth of inundation:         Depth to saturation:       Hereit and the saturation in the satur | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Node<br>nic content in sur                                       | Reducing Condition<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>rology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks  | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak<br>Streak<br>Organic streak<br>Organic s | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>ban (in sandy soils<br>ban (in sandy soils<br>ban Hydric Soils Lis<br>Other:<br>Other:<br>Cogy Indicators<br>Is (upper 12'')<br>stained leaves<br>il Survey Data   | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:       Hydrology:         Recorded Data Available       Depth of inundation:         Depth to saturation:       Hereit and the saturation in the satur | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Nodir<br>hic content in sur<br>Primary Hydr<br>Saturate          | Reducing Condition<br>.: Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>rology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines  | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak<br>Streak<br>Organic streak<br>Organic s | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>ban (in sandy soils<br>ban (in sandy soils<br>ban Hydric Soils Lis<br>Other:<br>Other:<br>logy Indicators<br>Is (upper 12'')<br>stained leaves   | s)<br>)<br>st X |  |
| Taxonomy:         Depth       Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:       Hydrology:         Recorded Data Available       Depth of inundation:         Depth to saturation:       Depth to saturation:   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | Primary Hydr<br>Saturate<br>Sedox   | Reducing Condition<br>.: Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>rology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:       Hydrology:         Recorded Data Available       Depth of inundation:         Depth to free water:       Depth to free  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Nodi<br>nic content in sui<br>Primary Hydr<br>Saturat<br>Saturat | Reducing Condition<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:       Hydrology:         Recorded Data Available       Depth of inundation:         Depth to free water:       Depth to free  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>4/2 / 7.5 Y<br>G<br>High organ  | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Nodi<br>nic content in sui<br>Primary Hydr<br>Saturat<br>Saturat | Reducing Condition<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma       Remarks:         Hydrology:       Recorded Data Available         Depth of inundation:       Depth to free water:         Remarks:       Plot above   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>High organ<br>Yes   | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Nodi<br>nic content in sui<br>Primary Hydr<br>Saturat<br>Saturat | Reducing Condition<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:       Hydrology:         Recorded Data Available       Depth of inundation:         Depth to free water:       Depth to free  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>High organ<br>Yes   | YR 4/3<br>YR 4/3<br>Redox<br>Concretions/Nodi<br>nic content in sui<br>Primary Hydr<br>Saturat<br>Saturat | Reducing Condition<br>. Features (w/in 10"<br>ules (w/in 3"; >2mm<br>face (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma       Remarks:         Hydrology:       Recorded Data Available         Depth of inundation:       Depth to saturation:         Depth to free water:       Plot above         Wetland Determinat       Determinat   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 Y<br>High organ<br>? Yes<br>   | Primary Hydr<br>Saturat<br>Sed<br>down on slope   | Reducing Condition<br>Expeatures (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns  | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma       Remarks:         Hydrology:       Recorded Data Available         Depth of inundation:       Depth to saturation:         Depth to free water:       Plot above         Wetland Determinat       Is the hydrophytic vegeta  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR<br>High organ<br>Yes<br>Seep zone lower<br>ion:   | Primary Hydr<br>Saturat<br>Sed<br>down on slope   | Reducing Condition<br>Expeatures (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns<br>a                                   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma       Remarks:         Hydrology:       Recorded Data Available         Depth of inundation:       Depth to saturation:         Depth to free water:       Plot above         Wetland Determinat       Is the hydrophytic vegeta         Is the hydrophytic soil criterion       Remarke  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR<br>High organ<br>? Yes<br>  | Primary Hydr<br>Saturat<br>Sed<br>down on slope   | Reducing Condition<br>Example 2 Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns<br>e<br><u>NO</u><br><u>NO</u> | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma       Remarks:         Hydrology:       Recorded Data Available         Depth of inundation:       Depth to saturation:         Depth to free water:       Plot above         Wetland Determinat       Is the hydrophytic vegeta         Is the hydric soil criterion       Is the specific hydrology   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR<br>High organ<br>? Yes<br>  | Primary Hydr<br>Saturat<br>Sed<br>down on slope   | Reducing Condition<br>Expeatures (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns<br>a                                   | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Histosol         Hist. Epipedon       Sulfidic Odor         Gley/low chroma       Remarks:         Hydrology:       Recorded Data Available         Depth of inundation:       Depth to saturation:         Depth to free water:       Plot above         Wetland Determinat       Is the hydrophytic vegeta         Is the hydrocombytic soil criterion       Remarke  | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR<br>High organ<br>? Yes<br>  | Primary Hydr<br>Saturat<br>Sed<br>down on slope   | Reducing Condition<br>Example 2 Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>ology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns<br>e<br><u>NO</u><br><u>NO</u> | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic p<br>C<br>dread streak<br>Organic streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |
| Taxonomy:         Depth Horizon         0-14"       14-17"         14-17"       Hydric soil indicators:         Histosol       Hist. Epipedon         Sulfidic Odor       Gley/low chroma         Remarks:       Hydrology:         Recorded Data Available       Depth of inundation:         Depth to free water:       Plot above         Wetland Determinat       Is the hydrophytic vegeta         Is the hydric soil criterion       Is the specific hydrology         Is the specific hydrology       Is the specific hydrology   | Typic Fragiaqu<br>Matrix Color<br>7.5 YR 4/2<br>7.5 YR 4/2 / 7.5 YR<br>High organ<br>? Yes<br>  | Primary Hydr<br>Saturate<br>Sed<br>Dra<br>down on slope   | Reducing Condition<br>Features (w/in 10"<br>ules (w/in 3"; >2mm<br>rface (in sandy soils<br>Aerial photos<br><u>rology Indicators</u><br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>liment deposits<br>ainage patterns<br>Phone<br>NO<br>NO<br>NO              | Hydric soil?<br>Redox Desc.   | Yes<br>Strm. gauge | Hydric inclus<br>Texture/Structu<br>silt loam<br>silt loam, mixed in<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak<br>Organic streak<br>Organic streak<br>Organic p<br>C<br>dread Streak  | ions?<br>re/etc<br>matrix<br>ing (in sandy soils<br>van (i | s)<br>)<br>st X |  |

| Damascus Natu                          | ural Foaturos                      | Invento            | r\/                  |                             |                 |                                 |  |                                       |
|--|------------------------------------|--------------------|----------------------|-----------------------------|-----------------|---------------------------------|--|---------------------------------------|
|  |                                    |                    | -                    |                             | WETLAND:        | RO-D-01                         |  |                                       |
| Location:                              | West of Foster                     |                    | nrick Rd.            | -                           | Map No:         | A2, B2                          | ······   |                                       |
| Cowardin Class:                        | PFO, PEM, PC                       | W                  |                      | -                           | Plot No:        | DP 3                            |  |                                       |
| HGM Class:                             | SH                                 |                    |                      | -                           | WET/UPL:        | WET                             |  |                                       |
| Field Investigator(s):                 | ACS/TB/MB                          |                    |                      |                             | Date:           | 3/6/2007                        |  |                                       |
| Recent Weather:                        | 3.22" of rain in                   | last 14 days;      | 139% of normal       |                             |                 |                                 |  |                                       |
| Do normal conditions e                 |                                    |                    | Yes                  |                             |                 |                                 |  |                                       |
| Is the site significantly              |                                    |                    | No                   |                             |                 |                                 |  |                                       |
| Is the area a potential p              |                                    |                    | No                   |                             |                 |                                 |  |                                       |
| is the area a potential p              |                                    |                    |                      |                             |                 |                                 |  |                                       |
| Vegetation:                            | Dominant Pla                       | nt Species         |                      |                             |                 |                                 |  |                                       |
| Herb Stratum                           | Ind. status                        | % Cover            | % rel. cover         | Tree Stratur                | n               | Ind. status                     | % Cover  | % rel. cover                          |
|  | 00%                                |                    |                      | Total cover:                |                 |                                 | 10 00101   |                                       |
|  |                                    | 760/               | 75.00/               |                             | 07              | ,<br>                           |  |                                       |
| Agrostis tenuis [[capillari            |                                    | 75%                | 75.0%                |                             |                 |                                 |  |                                       |
| Lotus corniculatus                     | FAC                                | 10%                | 10.0%                |                             |                 |                                 |  |                                       |
| Ranunculus repens                      | FACW                               | 10%                | 10.0%                |                             |                 |                                 |  |                                       |
| Holcus lanatus                         | FAC                                | 5%                 | 5.0%                 |                             |                 |                                 |  |                                       |
|  |                                    |                    |                      |                             |                 |                                 |  |                                       |
|  |                                    |                    | -                    | Sapling/Sh                  | rub Stratum     | Ind. status                     | % Cover  | % rel. cover                          |
|  |                                    | <b>5</b> 77        | ····                 | Total cover:                | 0%              |                                 | /0 00000   |                                       |
|  |                                    |                    | -                    | Total cover.                | 07              | 0                               |  |                                       |
|  |                                    |                    |                      |                             |                 |                                 |  |                                       |
|  |                                    |                    |                      |                             |                 |                                 |  |                                       |
| •                                      |                                    |                    |                      |                             |                 |                                 |  |                                       |
| •••••••••••••••••••••••••••••••••••••• |                                    |                    |                      |                             |                 |                                 | • ••••••   |                                       |
|  |                                    |                    |                      |                             |                 |                                 |  | · · · · · · · · · · · · · · · · · · · |
| Developt of development or             | asias that are OPI                 | EACW and           |                      |                             | 1               | of                              | 1  | = 100%                                |
| Percent of dominant sp                 | pecies that are OBI                | _, FACW, and       | VOF FAC:             |                             |                 | _ 01                            |  | - 100 /0                              |
| Remarks:                               |                                    |                    |                      |                             |                 |                                 |  |                                       |
| Map Unit Name:<br>Taxonomy:            | Huberly silt loa<br>Typic Fragiaqu |                    |                      | Drainage Cl<br>Hydric soil? |                 | poorly drained<br>Hydric inclus | and the second | Yes                                   |
| Depth Horizon                          | Matrix Color                       |                    | Redox Conc.          | Redox Desc.                 |                 | Texture/Struct                  | ure/etc  |                                       |
| 0-3"                                   | 10 YR 3/2                          |                    |                      |                             |                 | silt loam                       |  |                                       |
| 3-16"                                  | 10 YR 4/3                          |                    | 7.5 YR 5/6; man      | v modium on po              | nd facos        | silt loam                       | hard peds, ang l   | olocky                                |
| 3-16                                   | 10 11 4/3                          |                    |                      |                             | su laces,       | Sillioan                        |  |                                       |
|  |                                    |                    | few medium sof       | i win masses                |                 |                                 | more redox with  | incresing depth                       |
| Hydric soil indicators:                |                                    | _                  |                      |                             |                 |                                 |  |                                       |
| Histosol                               |                                    |                    | Reducing Condition   |                             | _               | -                               | king (in sandy soils   |                                       |
| Hist. Epipedon                         |                                    |                    | . Features (w/in 10' |                             |                 |                                 | pan (in sandy soils  |                                       |
| Sulfidic Odor                          |                                    |                    | ules (w/in 3"; >2mm  |                             |                 |                                 | On Hydric Soils Lis  |                                       |
| Gley/low chroma                        | High organ                         | nic content in sur | face (in sandy soils | )                           |                 |                                 | Othe   |                                       |
| Remarks: Perched                       | water table on top o               | f hardpan @ 1      | 16". Soil margina    | I - 3 chroma m              | natrix, heavy m | ottling. Soil ind               | icator met on ba   | sis                                   |
| of observation of reducir              |                                    |                    |                      |                             |                 |                                 |  |                                       |
| Hydrology:                             |                                    |                    | <b>,</b>             |                             |                 | ,                               | •  |                                       |
|  |                                    |                    |                      |                             |                 |                                 |  |                                       |
|  |                                    |                    |                      |                             | <u>.</u>        |                                 | 0.15   |                                       |
| Recorded Data Availab                  |                                    |                    | Aerial photos        | <u>X</u>                    | Strm. gauge     |                                 | Other:   | <u></u>                               |
|  |                                    | Primary Hydro      | ology Indicators     |                             |                 |                                 | ology Indicators   |                                       |
| Depth of inundation:                   | NONE                               |                    | Inundated            |                             | _ Oxidize       | d Root Channe                   | els (upper 12'')   |                                       |
| Depth to saturation:                   | 2"                                 | Saturate           | ed in upper 12"      | X                           | _               | Water-                          | stained leaves   |                                       |
| Depth to free water:                   | 9"                                 |                    | Water marks          |                             | _               | Local So                        | oil Survey Data  |                                       |
| •                                      |                                    |                    | Drift lines          |                             | _               |                                 | C-Neutral Test   |                                       |
|  |                                    | 644                | iment deposits       |                             | <b>—</b> .      | .,,                             | Other:   |                                       |
|  |                                    |                    |                      |                             |                 |                                 | ouldi.   |                                       |
| <b></b>                                | <u>.</u>                           |                    | ainage patterns      |                             | <b></b> .       |                                 |  |                                       |
| Remarks: Hydrolog                      | y is subsurface wate               | er movement i      | rom upslope. N       | o surface wate              | er here.        |                                 |  |                                       |
| Wetland Determination                  | ation:                             |                    |                      |                             |                 |                                 |  |                                       |
| Is the hydronhytic year                | etation criterion m                | at?                | YES                  |                             |                 |                                 |  |                                       |
| Is the hydrophytic vege                |                                    | J. I               |                      |                             |                 |                                 |  |                                       |
| Is the hydric soil criter              |                                    |                    | YES                  |                             |                 |                                 |  |                                       |
| Is the specific hydrolog               |                                    |                    | YES                  |                             |                 |                                 |  |                                       |
| Is this sampling point                 | within a wetland?                  |                    | YES                  |                             |                 |                                 |  |                                       |
| Comments: Plot take                    | n just inside bounda               | iry.               |                      |                             |                 |                                 |  |                                       |
|  |                                    |                    |                      |                             |                 | · · ·                           |  |                                       |

| Damascus Natura  | I Features       |               |                       |                              | WETLAND:<br>Map No: | RO-D-01<br>A2, B2  |                     |                |
|--|------------------|---------------|-----------------------|------------------------------|---------------------|--------------------|---------------------|----------------|
| Cowardin Class:  | PFO, PEM, PC     |               | mok i ku.             | •                            | Plot No:            | DP 4               |                     |                |
|  |                  | 500           |                       | -                            |                     |                    |                     |                |
| HGM Class:   | SH               |               |                       | -                            | WET/UPL:            |                    |                     |                |
| Field Investigator(s):                                     | ACS/TB/MB        |               | ·····                 | -                            | Date:               | 3/6/2007           |                     |                |
| Recent Weather:  | 3.22" of rain in | last 14 days; | 139% of normal        |                              |                     |                    |                     |                |
| Do normal conditions exis                                  | t on the site?   |               | Yes                   |                              |                     |                    |                     |                |
| Is the site significantly dist                             |                  |               | No                    |                              |                     |                    |                     |                |
|  |                  |               | No                    |                              |                     |                    |                     |                |
| Is the area a potential prob                               | nem area:        |               |                       |                              |                     |                    |                     |                |
| Vegetation:  | Dominant Pla     | int Species   |                       |                              |                     |                    |                     |                |
| Herb Stratum<br>Total cover: 100%                          | Ind. status      | % Cover       | % rel. cover          | Tree Stratun<br>Total cover: | n<br>0%             | Ind. status        | % Cover             | % rel. cover   |
| Agrostis tenuis [[capillaris]]                             | FAC              | * 85%         | 85.0%                 |                              |                     |                    |                     |                |
| Festuca arundinacea  | FAC-             | 10%           | 10.0%                 |                              |                     |                    | ·                   |                |
|  | 140-             |               |                       |                              |                     |                    |                     |                |
| Vivia sp.  |                  | 5%            | 5.0%                  |                              |                     |                    |                     | <del></del>    |
|  |                  |               |                       | Sapling/ Shi                 | rub Stratum<br>0%   | Ind. status        | % Cover             | % rel. cover   |
|  |                  | ······        |                       |                              |                     |                    | •                   |                |
| <u></u>  |                  |               |                       |                              |                     |                    | •••••••             |                |
| Percent of dominant speci<br>Remarks:                      | es that are OB   | L, FACW, and  | l/or FAC :            |                              | 1                   | of                 | 1                   | = 100%         |
| Soils:   |                  |               |                       |                              |                     |                    |                     |                |
| Map Unit Name:   | Huberly silt loa | am, 0-3%      |                       | Drainage Cl                  | ass:                | poorly drained     |                     |                |
| Taxonomy:  | Typic Fragiaq    |               |                       | Hydric soil?                 |                     | Hydric inclus      | ions?               | Yes            |
|  | Matrix Color     |               | Redox Conc.           | Redox Desc.                  |                     | Texture/Structu    |                     |                |
| Depth Horizon  |                  |               | Neuox conc.           | ILCOUN DESC.                 |                     | silt loam          |                     |                |
| 0-5"   | 7.5 YR 3/2       |               |                       |                              |                     |                    | sub a-b, friable    |                |
| 5-14"  | 7.5 YR 3/2       | 7.5 YR 4/6    | few, med, dist.       | some med. Fe                 | concretions         | silt loam, sub a-t | , friable, Mn stain | s on ped faces |
| 14-16"   | 7.5 YR 4/3       | 7/5 YR 4/6    | concentrations/m      | nany, med, dist. i           | in matrix           | some med, man      | / small Fe concret  | ions           |
| Hydric soil indicators:                                    |                  |               |                       |                              |                     |                    |                     |                |
| Histosol   |                  | F             | Reducing Conditions   | ;                            |                     | Organic streak     | ing (in sandy soils | )              |
| Hist. Epipedon   | -                |               | . Features (w/in 10") |                              | -                   | -                  | an (in sandy soils  | ·              |
| Sulfidic Odor  | - (              |               | ules (w/in 3"; >2mm)  |                              | -                   |                    | n Hydric Soils Lis  |                |
| Gley/low chroma  | -                |               | face (in sandy soils) |                              |                     | -                  | Othe                |                |
| Remarks: Hardpan not                                       |                  |               |                       |                              | _                   |                    |                     |                |
| Hydrology:   |                  |               |                       |                              |                     |                    |                     |                |
| Recorded Data Available?                                   | Yes              |               | Aerial photos         | <u>×</u>                     | _Strm. gauge        |                    | Other:              |                |
|  |                  | Primary Hydro | ology Indicators      |                              |                     | econdary Hydrol    |                     |                |
| Depth of inundation:                                       | NONE             |               | Inundated             |                              | Oxidize             | d Root Channe      | is (upper 12")      | <u></u>        |
| Depth to saturation:                                       | >16"             | Saturate      | ed in upper 12"       |                              |                     | Water-s            | tained leaves       |                |
| Depth to free water:                                       | 15"              |               | Water marks           |                              | -                   | Local So           | il Survey Data      |                |
| -  |                  |               | Drift lines           |                              |                     |                    | C-Neutral Test      |                |
|  |                  | Sed           | iment deposits        |                              | -                   |                    | Other:              |                |
|  |                  |               | ainage patterns       |                              | _                   |                    | 0000                |                |
| Remarks: Water movin                                       | g subsurface fr  |               | evidence of surfa     | ce water. Abs                | ence of hardp       | an = no perching   | J.                  |                |
| Wetland Determination                                      | on:              |               |                       |                              |                     |                    |                     |                |
|  |                  | ot?           | VES                   |                              |                     | <u> </u>           |                     |                |
| Is the hydrophytic vegetati                                |                  | GLÍ           | YES                   |                              |                     |                    |                     |                |
| Is the hydric soil criterion                               |                  |               | YES                   |                              |                     |                    |                     |                |
| Is the specific hydrology c<br>Is this sampling point with |                  |               | NO<br>NO              |                              |                     |                    |                     |                |
| Comments: Boundary: sa<br>RARA/HYRA transition: loss       |                  |               | to horiz. breaks,     |                              |                     |                    |                     | tic?)          |

that turns boundary to east.

| <b>Damascus Natura</b>         | l Features        | Inventor          | ~v                                    |                              | WETLAND:          | RO-D-01        | OFF SITE              |               |
|--------------------------------|-------------------|-------------------|---------------------------------------|------------------------------|-------------------|----------------|-----------------------|---------------|
|                                | West of Foster    |                   | •                                     |                              | Map No:           | A2, B2'        |                       |               |
| Location:                      |                   |                   |                                       | •                            | Plot No:          | DP 5           | OFF SITE              |               |
| Cowardin Class:                | PFO, PEM, PO      | VV                |                                       | •                            |                   | WET            | OFF SHE               |               |
| HGM Class:                     | SH                |                   |                                       |                              | WET/UPL:          |                |                       |               |
| Field Investigator(s):         | ACS/TB/MB         |                   |                                       |                              | Date:             | 3/6/2007       |                       |               |
| Recent Weather:                | no                | last 14 days; 1   | 139% of normal                        |                              |                   |                |                       |               |
| Do normal conditions exist     | t on the site?    |                   | Yes                                   |                              |                   |                |                       |               |
| Is the site significantly dist | urbed?            |                   | No                                    |                              |                   |                |                       |               |
| Is the area a potential prob   | lem area?         |                   | No                                    |                              |                   |                |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       |               |
| Vegetation:                    | Dominant Plar     | nt Species        |                                       |                              |                   |                |                       |               |
| Herb Stratum                   | Ind. status       | % Cover           | % rel. cover                          | Tree Stratum                 | •                 | Ind. status    | % Cover               | % rel. cover  |
| Total cover: 100%              |                   |                   | 76 Tel. Covel                         | Total cover:                 | 0%                |                | /0 00401              |               |
|                                |                   | 05%               | 0.5.00/                               | Total cover.                 | 070               | ,<br>          |                       |               |
| Juncus effusus                 | FACW *            | 25%               | 25.0%                                 |                              |                   |                |                       | N             |
| Lotus corniculatus             | FAC               | 25%               | * 25.0%                               |                              |                   |                |                       |               |
| Phalaris arundinacea           | FACW              | 50%               | * 50.0%                               |                              |                   |                |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       |               |
|                                |                   |                   |                                       | Senling/Shr                  | ub Stratum        | Ind. status    | % Cover               | % rel. cover  |
|                                |                   | ,                 | · · · · · · · · · · · · · · · · · · · | Sapling/ Shr<br>Total cover: | ub Stratum<br>15% |                |                       | 70 IEI. CUVEF |
| <b></b>                        |                   | •••••             |                                       |                              |                   |                | 4 20/                 | 400.00/       |
|                                |                   |                   |                                       | Rosa pisocar                 | pa                | FAC            | 15%                   | 100.0%        |
|                                |                   |                   |                                       | <b></b>                      |                   |                |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       | <b></b>       |
|                                |                   |                   |                                       |                              |                   | ·····          |                       |               |
| Percent of dominant speci      | es that are OBL   | ., FACW, and      | /or FAC :                             |                              | 4                 | of             | . 4                   | =100%         |
| Remarks: Trace of RUE          | I and CRDO ald    | ong fenceline.    |                                       |                              |                   |                |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       |               |
| Soils:                         |                   |                   |                                       |                              |                   |                |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       |               |
| Map Unit Name:                 | Huberly silt loa  | m, 0-3%           |                                       | Drainage Cla                 | ass:              | poorly drained | t be                  |               |
| Taxonomy:                      | Typic Fragiaqu    | epts              |                                       | Hydric soil?                 | Yes               | Hydric inclus  | sions?                | Yes           |
| Depth Horizon                  | Matrix Color      |                   | Redox Conc.                           | Redox Desc.                  |                   | Texture/Struct | ure/etc               |               |
| not sampled                    |                   |                   |                                       |                              |                   |                |                       |               |
|                                |                   |                   |                                       |                              |                   | *****          |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       |               |
| Hydric soil indicators:        |                   |                   |                                       |                              |                   |                |                       |               |
| Histosol                       |                   | R                 | Reducing Conditions                   |                              |                   | Organic streal | king (in sandy soils) |               |
| Hist. Epipedon                 | -                 | Redox.            | Features (w/in 10")                   |                              | -                 | Organic        | pan (in sandy soils)  |               |
| Sulfidic Odor                  | <b>с</b>          | oncretions/Nodu   | ıles (w/in 3"; >2mm)                  |                              | _                 |                | On Hydric Soils Lis   | t X           |
| Gley/low chroma                | High organ        | ic content in sur | face (in sandy soils)                 |                              | -                 |                | Othe                  | -             |
| Remarks: Mapped hydr           | ic                |                   |                                       |                              | _                 |                |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       |               |
| Hydrology:                     |                   |                   |                                       |                              |                   |                |                       |               |
| Recorded Data Available?       | Yes               |                   | Aerial photos                         | х                            | Strm. gauge       |                | Other:                |               |
|                                |                   | Primary Hydro     | ology Indicators                      | en-12                        |                   |                | ology Indicators      |               |
| Depth of inundation:           | not observed      |                   | Inundated                             |                              |                   |                | els (upper 12")       |               |
|                                | not observed      | Saturata          | ed in upper 12"                       |                              | -                 |                | stained leaves        |               |
| Depth to saturation:           |                   | Saturate          | ••                                    |                              | -                 |                |                       | v             |
| Depth to free water:           | not observed      |                   | Water marks                           |                              | -                 |                | oil Survey Data       | <u>×</u>      |
|                                |                   |                   | Drift lines                           |                              | -                 | FA             | C-Neutral Test        | <u>X</u>      |
|                                |                   |                   | iment deposits                        |                              | -                 |                | Other:                |               |
|                                |                   |                   | inage patterns                        |                              | _                 |                |                       |               |
| Remarks: Ditched tribut        | ary. Unclear if n | nargins meet v    | wetland hydrolog                      | y. Meet FAC-n                | eutral and ma     | pped hydric in | margins.              |               |
| Wetland Determination          | on:               |                   |                                       |                              |                   |                |                       |               |
|                                | ••••              | 10                |                                       |                              |                   |                |                       |               |
| Is the hydrophytic vegetati    |                   | et?               | YES                                   |                              |                   |                |                       |               |
| Is the hydric soil criterion   |                   |                   | YES                                   |                              |                   |                |                       |               |
| Is the specific hydrology c    | riterion met?     |                   | YES                                   |                              |                   |                |                       |               |
| Is this sampling point with    |                   |                   | YES                                   |                              |                   |                |                       |               |
| Comments:                      |                   |                   |                                       |                              |                   |                |                       |               |
| comments.                      |                   |                   |                                       |                              |                   |                |                       |               |
|                                |                   |                   |                                       |                              |                   |                |                       |               |

| Damascus Natura<br>Location:<br>Cowardin Class:<br>HGM Class:<br>Field Investigator(s):<br>Recent Weather:<br>Do normal conditions exist<br>Is the site significantly dist<br>Is the area a potential prob | South of Hemrid<br>PEM<br>RFT<br>ACS/MB<br>on the site?<br>urbed? | -                           | Yes<br>No<br>No   |   | WETLAND:<br>Map No:<br>Plot No:<br>WET/UPL:<br>Date: | RO-D-02<br>B2<br>OFF SITE<br>WET<br>3/6/2007       | OFF SITE  |              |
|--|---|-----------------------------|---|---|--|--|---|--------------|
| Vegetation:  | Dominant Plan   | t Species                   | · · · · · · · · · · · · · · · · · · ·   |   | ,<br>  |  |   |              |
| Herb Stratum<br>Total cover: 100%  | Ind. status   | % Cover                     | % rel. cover  | Tree Stratum<br>Total cover:                | ו<br>0%  | Ind. status  | % Cover   | % rel. cover |
| Phalaris arundinacea   | FACW '  | 90%                         | 90.0%   |   |  |  |   |              |
| Unidentified grass   | FAC-FACW  | 10%                         | 10.0%   |   |  |  |   |              |
|  |   |                             |   | Sapling/ Shr<br>Total cover:                | ub Stratum<br>0%                                     | Ind. status  | % Cover   | % rel. cover |
|  |   |                             |   | ••••••••••••••••••••••••••••••••••••••      |  |  |   |              |
| Percent of dominant specie<br>Remarks: Community a   |   |                             |   | Rub di, Pha a                               | 1<br>Ir, Few cherry                                  | of<br>trees around ma                              | 1<br>argin (Pru ema)  | 100%         |
| Soils:   |   |                             |   |   |  |  |   |              |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon<br>not sampled  | Huberly silt loar<br>Typic Fragiaque<br>Matrix Color              | epts                        | Redox Conc.   | Drainage Cla<br>Hydric soil?<br>Redox Desc. | ass:<br>Yes  | poorly<br>Hydric inclusi<br>Texture/Structu        |   | Yes          |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: Mapped hydr  | High organi   | Redox. F                    | ducing Conditions<br>Features (w/in 10")<br>ss (w/in 3"; >2mm)<br>ce (in sandy soils) |   | -  | Organic p  | ing (in sandy soils)<br>van (in sandy soils)<br>on Hydric Soils List<br>Other |              |
| Hydrology:   |   |                             |   |   |  |  |   |              |
| Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:   | Yes<br>not observed<br>surface<br>surface                         | Primary Hydrol<br>Saturatec | Aerial photos<br><u>ogy Indicators</u><br>Inundated<br>I in upper 12''<br>Water marks | <u>x</u>                                    |  | <u>econdary Hydrol</u><br>d Root Channe<br>Water-s |   |              |
|  |   | Draiı                       | Drift lines<br>nent deposits<br>nage patterns   |   | -  |  | C-Neutral Test<br>Other:  |              |
| Remarks: Perm. pondin<br>runoff also co<br>Wetland Determinatio  | ntributes.  | tream (WL abo               | ove channelized   | S of Hemrick                                | ) adjacent upl                                       | and area is mow                                    | ved lawn so som   | e            |
| Is the hydrophytic vegetati<br>Is the hydric soil criterion is<br>Is the specific hydrology c<br>Is this sampling point with<br>Comments:  | net?<br>riterion met?   | t?                          | YES<br>YES<br>YES<br>YES  |   |  |  |   |              |

| Damascus Natura                       | l Features                    | Invento           | rv  |                              | WETLAND:         | RO-E-01            |  |              |
|---------------------------------------|-------------------------------|-------------------|---|------------------------------|------------------|--------------------|--|--------------|
| Location:                             | East of Foster at Hemrick Rd. |                   |   | Map No:                      | B2               |                    |  |              |
| Cowardin Class:                       |                               | at Hennick INC    | 8.  |                              | Plot No:         | DP 1               |  |              |
| HGM Class:                            |                               |                   |   |                              | WET/UPL:         | UPL                |  |              |
| Field Investigator(s):                | ACS/TB/RR/M                   | R                 |   | •                            | Date:            | 3/16/2007          | · · · · · · · · · · · · · · · · · · ·    |              |
| Recent Weather:                       | 1.72" of rain in              |                   | 88% of normal                                 |                              | Duto.            | 0/10/2001          |  |              |
| Do normal conditions exist            |                               | 1431 14 Udys, 1   | Yes   |                              |                  |                    |  |              |
|                                       |                               |                   | No  |                              |                  |                    |  |              |
| Is the site significantly dist        |                               |                   |   |                              |                  |                    |  |              |
| Is the area a potential prob          | nem area?                     |                   | No  |                              |                  |                    |  |              |
| Vegetation:                           | Dominant Pla                  | nt Species        |   |                              |                  |                    |  |              |
| Herb Stratum                          | Ind. status                   | % Cover           | % rel. cover                                  | Tree Stratun                 |                  | Ind. status        | % Cover                                  | % rel. cover |
| Total cover: 100%                     |                               |                   |   | Total cover:                 | 0%               | 0                  |  |              |
| Lotus corniculatus                    | FAC                           | 25%               | 25.0%   |                              |                  |                    |  |              |
| Trifolium repens                      | FAC                           | 25%               | * 25.0%                                       |                              |                  |                    |  | <u></u>      |
| Hypochaeris radicata                  | FACU                          | 5%                | 5.0%  |                              |                  |                    |  |              |
| Agrostis stolonifera                  | FAC                           | 40%               | * 40.0%                                       |                              |                  |                    |  |              |
| Ranunculus repens                     | FACW                          | 3%                | 3.0%  |                              |                  |                    |  |              |
| Parentucellia viscosa                 | FAC-                          | 2%                | 2.0%  | Sapling/ Shi<br>Total cover: | ub Stratum<br>0% | Ind. status        | % Cover                                  | % rel. cover |
|                                       |                               |                   |   |                              |                  |                    |  |              |
| Percent of dominant speci<br>Remarks: | es that are OB                | L, FACW, and      | l/or FAC :                                    | •••• ·                       | 3                | of                 | 3  | =100%        |
| Soils:                                |                               |                   |   |                              |                  |                    |  |              |
| Map Unit Name:                        | Powell silt loar              | m, 0-8% slope:    | S   | Drainage Cl                  | ass:             | somewhat poo       | rly drained                              |              |
| Taxonomy:                             | Typic Fragioch                | nrepts            |   | Hydric soil?                 | No               | Hydric inclusi     | ons?                                     | Yes          |
| Depth Horizon                         | Matrix Color                  |                   | Redox Conc.                                   | Redox Desc.                  |                  | Texture/Structu    | re/etc                                   |              |
| 0-16"                                 | 10 YR 4/3                     |                   |   |                              |                  | silt loam / subang | gular blocky                             |              |
|                                       |                               |                   |   |                              |                  |                    |  |              |
| Hydric soil indicators:               |                               | -                 |   |                              |                  | 0                  |  | <b>N</b>     |
| Histosol                              | -                             |                   | Reducing Conditions                           |                              | -                | -                  | ng (in sandy soils                       |              |
| Hist. Epipedon                        | -                             |                   | . Features (w/in 10")                         |                              | -                |                    | an (in sandy soils<br>n Hydric Soils Lis |              |
| Sulfidic Odor                         |                               |                   | ules (w/in 3"; >2mm)<br>face (in sandy soils) |                              | -                | 0                  | Othe                                     |              |
| Gley/low chroma                       |                               | nic content in su | ace (in sandy solis)                          |                              | -                |                    | Gaic                                     |              |
| Hydrology:                            |                               |                   |   |                              |                  |                    |  |              |
| Recorded Data Available?              | Yes                           |                   | Aerial photos                                 | x                            | _Strm. gauge     |                    | Other:                                   |              |
|                                       |                               | Primary Hydro     | ology Indicators                              |                              |                  | econdary Hydrol    |  |              |
| Depth of inundation:                  | NONE                          |                   | Inundated                                     |                              | Oxidize          | d Root Channe      | ls (upper 12")                           |              |
| Depth to saturation:                  | >16"                          | Saturate          | ed in upper 12"                               |                              | -                | Water-s            | tained leaves                            |              |
| Depth to free water:                  | >16"                          |                   | Water marks                                   | -                            | -                | Local Soi          | I Survey Data                            |              |
|                                       |                               |                   | Drift lines                                   | <u></u>                      | _                |                    | -Neutral Test                            |              |
|                                       |                               | Sed               | iment deposits                                |                              |                  |                    | Other:                                   |              |
|                                       |                               |                   | ainage patterns                               |                              | -                |                    |  |              |
| Remarks:                              |                               |                   | patterne                                      |                              |                  |                    |  |              |
| Wetland Determination                 | on:                           |                   |   |                              |                  |                    |  |              |
| Is the hydrophytic vegetati           | ion criterion m               | et?               | YES   |                              |                  |                    |  |              |
| Is the hydric soil criterion          |                               |                   | NO  |                              |                  |                    |  |              |
| Is the specific hydrology c           |                               |                   | NO  |                              |                  |                    |  |              |
| Is this sampling point with           |                               |                   | NO  |                              |                  |                    |  |              |
|                                       |                               |                   |   |                              |                  |                    |  |              |

| Damascus Natura   | I Features   | Invento         | rv               |                | WETLAND:     | RO-E-01             |  |   |  |
|---|--|-----------------|------------------|----------------|--------------|---------------------|--|---|--|
| Location:   | East of Foster   |                 |                  |                | Map No:      | 82                  |  |   |  |
|   |  | at Hennick Nu   |                  | •              | •            | DP 2                |  |   |  |
| Cowardin Class:   | PEM  |                 |                  |                | Plot No:     |                     |  |   |  |
| HGM Class:  | SV   |                 |                  |                | WET/UPL:     | WET                 |  |   |  |
| Field Investigator(s):  | RR/MB  |                 |                  |                | Date:        | 3/16/2007           |  |   |  |
| Recent Weather:   |  | past 14 days;   | 88% of normal    |                |              |                     |  |   |  |
| Do normal conditions exis   | st on the site?  |                 | Yes              |                |              |                     |  |   |  |
| Is the site significantly dis   | turbed?  |                 | No               |                |              |                     |  |   |  |
| Is the area a potential prol  |  |                 | No               |                |              |                     |  |   |  |
|   |  |                 |                  |                |              |                     |  |   |  |
| Vegetation:   | Dominant Pla   | nt Species      |                  |                |              |                     |  |   |  |
| Herb Stratum  | Ind. status  | % Cover         | % rel. cover     | Tree Stratun   | า            | Ind. status         | % Cover  | % rel. cover                                  |  |
| Total cover: 100%   | ,<br>0   |                 |                  | Total cover:   | 0%           | ,<br>D              |  |   |  |
|   | FACW   | 10%             | 10.0%            |                |              |                     |  |   |  |
| Ranunculus repens   |  |                 |                  |                |              |                     |  |   |  |
| Lotus corniculatus  | FAC  | 20%             | * 20.0%          |                |              |                     |  |   |  |
| Unknown grass   |  | 10%             | 10.0%            |                |              |                     |  |   |  |
| Epilobium watsonii [ciliatum  |  | T               |                  |                |              |                     |  | . <u> </u>                                    |  |
| Agrostis stolonifera  | FAC  | 60%             | 60.0%            |                |              |                     |  |   |  |
|   |  |                 |                  | Sapling/ Shi   | ub Stratum   | Ind. status         | % Cover  | % rel. cover                                  |  |
| <u></u>   |  |                 |                  | Total cover:   | 0%           | 0                   |  |   |  |
|   |  | •               |                  |                |              |                     |  |   |  |
|   | ·······  |                 |                  |                |              |                     |  |   |  |
|   |  |                 |                  |                |              |                     |  |   |  |
|   |  |                 |                  |                |              |                     |  |   |  |
|   |  |                 |                  |                |              |                     | <u> </u>   |   |  |
|   |  | -               |                  | <b></b>        |              |                     |  |   |  |
| Percent of dominant spec  | ies that are OBI   | _, FACW, and    | /or FAC :        |                | 2            | of                  | 2  | = 100%  |  |
| Remarks:  |  |                 |                  |                |              |                     |  |   |  |
| Soils:<br>Map Unit Name:  | Powell silt loar   |                 |                  | Drainage Cla   |              | somewhat poo        |  | Yes   |  |
| Taxonomy:   | Typic Fragioch   | liepts          |                  | Hydric soil?   | No           | Hydric inclus       |  | res   |  |
| Depth Horizon   | Matrix Color   |                 | Redox Conc.      | Redox Desc.    |              | Texture/Structu     | re/etc   |   |  |
| 0-16"   | 10 YR 4/3  |                 | 10 YR 4/6        | many, med, dis | st.          | silt loam clay / cl | nunky  |   |  |
|   |  |                 |                  |                |              |                     |  |   |  |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: Reducing co | Reducing Conditions<br>Redox. Features (w/in 10")<br>Concretions/Nodules (w/in 3"; >2mm)<br>High organic content in surface (in sandy soils) |                 |                  | <u>x</u>       |              | Organic p           | ing (in sandy soils<br>an (in sandy soils<br>on Hydric Soils Lis<br>Othe | )<br>t  |  |
| Reddoling co  |  | <i>.</i>        |                  |                |              |                     |  |   |  |
| Hydrology:  | ••••••••••••••••••••••••••••••••••••••   |                 |                  |                |              |                     |  |   |  |
| Recorded Data Available?  | Yes  |                 | Aerial photos    | х              | Strm. gauge  |                     | Other:   |   |  |
|   |  | Primary Hydro   | ology Indicators |                |              | econdary Hydro      | ogy Indicators   | <u>, , , , , , , , , , , , , , , , , , , </u> |  |
| Depth of inundation:  | NONE   |                 | Inundated        |                |              | d Root Channe       |  |   |  |
| -   | 4"   | Saturate        |                  | v              | -            |                     | tained leaves  |   |  |
| Depth to saturation:  |  | Saturate        | ed in upper 12"  | <u>X</u>       | _            |                     |  |   |  |
| Depth to free water:  | 10"  |                 | Water marks      |                | _            |                     | il Survey Data   |   |  |
|   |  |                 | Drift lines      |                | _            | FAG                 | C-Neutral Test   |   |  |
|   |  | Sed             | iment deposits   |                |              |                     | Other:   |   |  |
|   |  |                 | =                | X              | -            |                     |  |   |  |
| Remarks:  |  | 2.,             |                  |                | -            |                     |  |   |  |
|   |  |                 |                  |                |              |                     |  | ·····   |  |
| Wetland Determination   | 001:   |                 |                  |                |              |                     |  |   |  |
| Is the hydrophytic vegetat  | tion criterion m   | et?             | YES              |                |              |                     |  |   |  |
| Is the hydric soil criterion  |  |                 | YES              |                |              |                     |  |   |  |
|   |  |                 |                  |                |              |                     |  |   |  |
| Is the specific hydrology of  |  |                 | YES              |                |              |                     |  |   |  |
| Is this sampling point with   | hin a wetland?   |                 | YES              |                |              |                     |  |   |  |
| Comments: Wetland fed   | by seep water a  | nd surface flow | w; ponding obser | ved in some (  | small) areas | Horse pasture w     | ith wet seep   |   |  |
| - officiation - voltario red  |  |                 | , posiding 00000 |                |              |                     |  |   |  |

| Damascus Natura                  | al Features                      | Invento              | ry  | WETLAND:<br>Map No:          | RO-F-02             |                                       |   |              |
|----------------------------------|----------------------------------|----------------------|---|------------------------------|---------------------|---------------------------------------|---|--------------|
| Location:                        | East end of He                   | uke Rd.              |   |                              | Map No:             | C3                                    |   |              |
| Cowardin Class:                  |                                  |                      |   |                              | Plot No:            | DP 1                                  |   |              |
| HGM Class:                       |                                  |                      |   |                              | WET/UPL:            | UPL                                   |   |              |
| Field Investigator(s):           | RR/MB                            |                      |   | -                            | Date:               | 3/16/2007                             |   |              |
| Recent Weather:                  | 1.72" of rain in                 | past 14 days;        | 88% of average                                | -                            |                     |                                       |   |              |
| Do normal conditions exis        | st on the site?                  | <u></u>              | Yes   |                              |                     |                                       |   |              |
| Is the site significantly dis    | sturbed?                         |                      | No  |                              |                     |                                       |   |              |
| Is the area a potential pro      |                                  |                      | No  |                              |                     |                                       |   |              |
|                                  |                                  | - <b></b>            |   |                              |                     | · · · · · · · · · · · · · · · · · · · |   |              |
| Vegetation:                      | Dominant Pla                     | nt Species           |   |                              |                     |                                       |   |              |
| Herb Stratum<br>Total cover: 60% | Ind. status                      | % Cover              | % rel. cover                                  | Tree Stratum<br>Total cover: | n<br>30%            | Ind. status                           | % Cover                                   | % rel. cover |
|                                  |                                  | 409/                 | 16 70/  |                              |                     | 。<br>FACU                             | 25%                                       | 83.3%        |
| Galium aparine                   | FACU                             | 10%                  | 16.7%   | Pseudotsuga                  | menziesii           |                                       | <u> </u>                                  | 16.7%        |
| Poa pratensis                    | FAC                              | 40%                  | * 66.7%                                       | Alnus rubra                  |                     | FAC                                   | 5%  | 10.7%        |
| Dactylis glomerata               | FACU                             | 5%                   | 8.3%  |                              |                     |                                       |   |              |
| Aster sp.                        |                                  | 5%                   | 8.3%  |                              |                     |                                       |   |              |
|                                  |                                  | ,                    |   | O and in all Ohn             | under Octometer une | Ind status                            | P/ Cover                                  | 9/ rol 00000 |
|                                  |                                  | <del></del>          | <u> </u>                                      | Sapling/ Shr                 | ub Stratum<br>45%   | Ind. status                           | % Cover                                   | % rel. cover |
|                                  |                                  |                      |   | Total cover:                 |                     |                                       | 400/                                      | 00.00/       |
|                                  |                                  |                      |   | Oemleria cer                 |                     | FACU                                  | 10%                                       | 22.2%        |
|                                  |                                  |                      |   |                              | or [R. armenia      |                                       | 15%                                       | 33.3%        |
|                                  |                                  |                      |   | llex aquifoliu               |                     | UPL                                   | 5%  | 11.1%        |
|                                  |                                  |                      |   | Rubus ursinu                 |                     | FACU                                  | 5%  | 11.1%        |
|                                  |                                  | <u></u>              |   | Corylus corn                 |                     | FACU                                  | 5%  | 11.1%        |
|                                  |                                  |                      |   | Malva neglec                 |                     | UPL                                   | 5%  | 11.1%        |
| Percent of dominant spec         | ies that are OB                  | _, FACW, and         | /or FAC :                                     |                              | 1                   | of                                    | 4   | = 25%        |
| Map Unit Name:<br>Taxonomy:      | Delena silt loa<br>Humic Fragiaq |                      |   | Drainage Cla<br>Hydric soil? |                     | poorly drained<br>Hydric inclusi      | ions?                                     | Yes          |
| Depth Horizon                    | Matrix Color                     |                      | Redox Conc.                                   | Redox Desc.                  |                     | Texture/Structu                       | re/etc                                    |              |
| 0-16" uniform                    | 7.5 YR 3/3                       |                      |   |                              |                     | silt loam / dry, me                   | oderate crumbly                           |              |
|                                  |                                  |                      |   |                              |                     |                                       |   |              |
| Hydric soil indicators:          |                                  |                      |   |                              |                     |                                       |   |              |
| Histosol                         |                                  |                      | Reducing Conditions                           |                              | -                   |                                       | ing (in sandy soils                       |              |
| Hist. Epipedon                   |                                  |                      | Features (w/in 10")                           |                              | -                   |                                       | an (in sandy soils<br>In Hydric Soils Lis |              |
| Sulfidic Odor                    |                                  |                      | ıles (w/in 3"; >2mm)<br>face (in sandy soils) |                              | -                   | C                                     | Othe                                      |              |
| Gley/low chroma                  | - Ingh organ                     | ile content in sur   | Tace (IT salidy solis)                        | /                            | -                   |                                       | out                                       |              |
| Remarks:                         | ······                           |                      |   |                              |                     |                                       |   |              |
| Hydrology:                       |                                  |                      |   |                              |                     |                                       |   |              |
| Recorded Data Available?         | Yes                              | Drimon, Lluch        | Aerial photos                                 | <u>×</u>                     | _Strm. gauge        | econdary Hydrol                       | Other:                                    |              |
| Denth of laws -latters           | NONE                             | <u>Primary Hydro</u> | ology Indicators                              |                              |                     |                                       |   |              |
| Depth of inundation:             | NONE                             |                      | Inundated                                     |                              | - Oxidize           | d Root Channe                         |   |              |
| Depth to saturation:             | >16"                             | Saturate             | ed in upper 12"                               |                              | <b></b>             |                                       | tained leaves                             |              |
| Depth to free water:             | >16"                             |                      | Water marks                                   |                              | _                   |                                       | I Survey Data                             |              |
|                                  |                                  |                      | Drift lines                                   |                              | -                   | FAU                                   | C-Neutral Test                            | <u></u>      |
|                                  |                                  |                      | iment deposits                                |                              |                     |                                       | Other:                                    | ç <u></u>    |
| Remarks:                         |                                  | Dra                  | inage patterns                                |                              | -                   |                                       |   |              |
|                                  | on                               |                      | <u> </u>                                      |                              |                     |                                       |   |              |
| Wetland Determinati              |                                  |                      |   |                              |                     |                                       |   |              |
| Is the hydrophytic vegeta        | tion criterion m                 | et?                  | NO  |                              |                     |                                       |   |              |
| Is the hydric soil criterior     | n met?                           |                      | NO  |                              |                     |                                       |   |              |
| Is the specific hydrology        |                                  |                      | NO  |                              |                     |                                       |   |              |
| Is this sampling point wit       |                                  |                      | NO  |                              |                     |                                       |   |              |
| Comments: Pit on rise u          | Inder large PSME                 | E at wet bound       | ary & riparian zo                             | ne. Soil does                | not match ma        | pped hydric soil                      | description.                              |              |

|                                   |                   |   |  |                              |                                       |                                       | • |              |
|-----------------------------------|-------------------|---|--|------------------------------|---------------------------------------|---------------------------------------|---|--------------|
| Damascus Natura                   | al Features       | s Inventor                                    | ۰v                                     | WETLAND:<br>Map No:          | RO-F-02<br>C3                         |                                       |   |              |
|                                   |                   |   | 3                                      |                              |                                       |                                       |   |              |
| Location: East end of Heuke Rd.   |                   | euke rtu.                                     |  | -                            | -                                     | DP 2                                  |   |              |
| Cowardin Class:                   |                   |   |  | -                            | Plot No:                              |                                       |   |              |
| HGM Class:                        | <u></u>           |   |  | -                            | WET/UPL:                              | UPL                                   |   |              |
| Field Investigator(s):            | RR/MB             |   |  | -                            | Date:                                 | 3/16/2007                             |   |              |
| Recent Weather:                   | 1.72" of rain in  | past 14 days;                                 | 88% of average                         |                              |                                       |                                       |   |              |
| Do normal conditions exis         | st on the site?   |   | Yes                                    |                              |                                       |                                       |   |              |
| Is the site significantly dis     | turbed?           |   | No                                     |                              |                                       |                                       |   |              |
| Is the area a potential pro       |                   |   | No                                     |                              |                                       |                                       |   |              |
| · ·                               |                   |   |  |                              |                                       |                                       |   |              |
| Vegetation:                       | Dominant Pla      | nt Species                                    |  |                              |                                       | · · · · · · · · · · · · · · · · · · · |   |              |
| Herb Stratum<br>Total cover: 100% | Ind. status       | % Cover                                       | % rel. cover                           | Tree Stratun<br>Total cover: | n<br>0%                               | Ind. status                           | % Cover                                 | % rel. cover |
| Juncus effusus                    | FACW              | 10%   | 10.0%                                  |                              | · · · · · · · · · · · · · · · · · · · |                                       |   |              |
| Poa pratensis                     | FAC               | 65%   | * 65.0%                                |                              |                                       |                                       |   |              |
| Geranium molle                    | UPL               | 10%   | 10.0%                                  |                              |                                       |                                       |   | e            |
|                                   | FACU              | T   | 10.070                                 |                              |                                       |                                       |   |              |
| Hypochaeris radicata              |                   |   | <u> </u>                               |                              |                                       |                                       |   | •••••        |
| Rumex crispus                     | FAC+              | 5%  | 5.0%                                   |                              |                                       |                                       |   | 0/           |
| Lotus corniculatus                | FAC               | 5%  | 5.0%                                   | Sapling/ Shr                 |                                       | Ind. status                           | % Cover                                 | % rel. cover |
| Cardamine oligosperma             | FAC               | т   |  | Total cover:                 | 0%                                    | 0                                     |   |              |
| Myosotis laxa                     | OBL               | Т   | *                                      |                              |                                       |                                       |   |              |
| Holcus mollis                     | FACU              | 5%  | 5.0%                                   |                              |                                       |                                       |   |              |
|                                   |                   |   |  | P                            |                                       |                                       |   |              |
|                                   |                   |   |  |                              |                                       |                                       |   |              |
| Percent of dominant spec          | ies that are OB   | L. FACW. and                                  | /or FAC :                              |                              | 1                                     | of                                    | 1 :                                     | 100%         |
| Remarks:                          |                   | <b></b> , , , , , , , , , , , , , , , , , , , |  |                              |                                       | _                                     |   |              |
|                                   |                   |   |  |                              |                                       |                                       |   |              |
| Callar                            |                   |   |  |                              |                                       |                                       |   |              |
| Soils:                            |                   |   |  |                              |                                       |                                       |   |              |
|                                   |                   | 0.40%   |  | D                            |                                       |                                       |   |              |
| Map Unit Name:                    | Delena silt loa   |   |  | Drainage Cla                 |                                       | poorly drained                        |   | Maa          |
| Taxonomy:                         | Humic Fragiad     | quepts  |  | Hydric soil?                 | Yes                                   | Hydric inclus                         |   | Yes          |
| Depth Horizon                     | Matrix Color      |   | Redox Conc.                            | Redox Desc.                  |                                       | Texture/Structu                       | re/etc                                  |              |
| 0-16" uniform                     | 10 YR 3/4         |   |  |                              |                                       | silt loam / suban                     | gular blocky                            |              |
|                                   |                   |   |  |                              |                                       |                                       |   |              |
|                                   |                   |   |  |                              |                                       |                                       |   |              |
| Hydric soil indicators:           |                   |   |  |                              |                                       |                                       |   |              |
| Histosol                          |                   | F   | Reducing Conditions                    | ;                            |                                       | Organic streak                        | ing (in sandy soils)                    |              |
| Hist. Epipedon                    | _                 | Redox.  | Features (w/in 10")                    | )                            | A194                                  | Organic p                             | an (in sandy soils)                     |              |
| Sulfidic Odor                     | - (               | Concretions/Nodu                              | lles (w/in 3"; >2mm)                   | )                            | -                                     | C                                     | n Hydric Soils List                     |              |
| Gley/low chroma                   | High orga         | nic content in sur                            | face (in sandy soils)                  | )                            |                                       |                                       | Other                                   |              |
| Remarks:                          | _                 |   |  |                              | -                                     |                                       |   |              |
|                                   |                   |   |  |                              |                                       |                                       |   |              |
| Hydrology:                        |                   |   |  |                              |                                       |                                       |   |              |
| Recorded Data Available?          | Yes               |   | Aerial photos                          | х                            | Strm. gauge                           |                                       | Other:                                  |              |
| NEUTICU Dala Available            | 165               | Drimon, Use                                   |  | <u>^</u>                     |                                       | econdary Hydrol                       |   |              |
| Daudh af land dati                | undel             |   | blogy Indicators                       | ~                            |                                       |                                       |   |              |
| Depth of inundation:              | patches           | _   | Inundated                              | <u>×</u>                     | _ Oxidize                             | d Root Channe                         |   |              |
| Depth to saturation:              | surface           | Saturate                                      | ed in upper 12"                        | Х                            |                                       |                                       | tained leaves                           |              |
| Depth to free water:              | 3"                |   | Water marks                            |                              | _                                     | Local So                              | il Survey Data                          |              |
|                                   |                   |   | Drift lines                            |                              | _                                     | FAC                                   | C-Neutral Test                          |              |
|                                   |                   | Sed   | iment deposits                         |                              | _                                     |                                       | Other:                                  |              |
|                                   |                   | Dra   | inage patterns                         | X                            |                                       |                                       |   | -            |
| Remarks:                          |                   |   | • •                                    |                              | _                                     |                                       |   |              |
|                                   |                   |   |  |                              |                                       |                                       |   |              |
| Wetland Determinati               | on:               |   |  |                              |                                       |                                       |   |              |
|                                   |                   |   | VEC                                    |                              |                                       |                                       |   |              |
| Is the hydrophytic vegeta         |                   | et?   | YES                                    |                              |                                       |                                       |   |              |
| Is the hydric soil criterion      | met?              |   | NO                                     |                              |                                       |                                       |   |              |
| Is the specific hydrology         | criterion met?    |   | YES                                    |                              |                                       |                                       |   |              |
| Is this sampling point wit        | hin a wetland?    |   | NO                                     |                              |                                       |                                       |   |              |
|                                   |                   | rology fingered                               | through open fig                       | ld (Chrisman                 | tree farm in a                        | ea too wet for tr                     | 200)                                    |              |
|                                   |                   |   | through open fie                       |                              |                                       |                                       |   | it./         |
|                                   |                   |   | cing conditions' v<br>d could be desig |                              |                                       | The wet plots in                      | infineurate vicin                       | ιсу,         |
| this would h                      | e an isolated ser | en werland (an                                | a collia de desiai                     |                              |                                       |                                       |   |              |

|   |                       | Wetl                                  | and Determi  | nation Data   | Form           |                    |   |              |
|---|-----------------------|---------------------------------------|--|---------------|----------------|--------------------|---|--------------|
| Damascus Natura   | WETLAND:              | RO-F-02                               |  |               |                |                    |   |              |
| Location:   | East end of Heuke Rd. |                                       |  | Map No:       | C3             |                    |   |              |
| Cowardin Class:   | PEM, PFO              |                                       |  | -             | Plot No:       | DP 3               |   |              |
| HGM Class:  | RFT, SV               |                                       |  | -             | WET/UPL:       | WET                |   |              |
| Field Investigator(s):  | RR/MB                 |                                       |  | -             | Date:          | 3/16/2007          |   |              |
| Recent Weather:   |                       | past 14 days.                         | 88% of average   | -             | Butor          | 0.10.2001          |   |              |
| Do normal conditions exist  |                       | puol : : : : : : : : ; ;              | Yes  |               |                |                    |   |              |
| Is the site significantly dist  |                       |                                       | <u>No</u>  |               |                |                    |   |              |
| Is the area a potential prob  |                       |                                       | No   |               |                |                    |   |              |
| Vegetation:   | Dominant Pla          | nt Species                            |  |               |                |                    |   |              |
| Herb Stratum<br>Total cover: 100%   | Ind. status           | % Cover                               | % rel. cover   | Tree Stratum  | 0%             | Ind. status        | % Cover   | % rel. cover |
|   | FAC                   | 35%                                   | 35.0%  |               |                | )                  |   |              |
| Poa pratensis   |                       |                                       |  |               |                |                    |   |              |
| Juncus effusus  | FACW                  | <u> </u>                              | 5.0%   |               |                |                    |   |              |
| Unk. thistle  | <b>E</b> AO:          | <u> </u>                              |  |               |                |                    |   |              |
| Rumex crispus   | FAC+                  | T                                     |  |               |                |                    |   |              |
| Geranium molle  | UPL                   | T                                     |  |               |                |                    |   |              |
| Hypochaeris radicata  | FACU                  | 5%                                    | 5.0%   | Sapling/ Shr  |                | Ind. status        | % Cover   | % rel. cover |
| Lotus corniculatus  | FAC                   | Т                                     | • •••••  | Total cover:  | 25%            |                    |   |              |
| Epilobium watsonii [ciliatum]   |                       | 10%                                   | 10.0%  | Rubus discolo | or [R. armenia | ĸ FACU             | 25%   | 100.0%       |
| Holcus mollis   | FACU                  | 5%                                    | 5.0%   |               |                |                    |   |              |
| Veronica americana  | OBL                   | 10%                                   | 10.0%  |               |                |                    |   |              |
| Phalaris arundinacea  | FACW                  | 30%                                   | 30.0%  |               |                |                    |   |              |
| Soils:  | Delene citting        | - 2 400/                              |  | Ducing on Cla |                |                    |   |              |
| Map Unit Name:  | Delena silt loa       |                                       |  | Drainage Cla  |                | poorly drained     |   | Maria        |
| Taxonomy:   | Humic Fragiag         | luepts                                |  | Hydric soil?  | Yes            | Hydric inclus      |   | Yes          |
| Depth Horizon   | Matrix Color          |                                       | Redox Conc.  | Redox Desc.   |                | Texture/Structu    |   |              |
| 0-10"   | 10 YR 3/1             | N=1 - 11                              |  |               |                | silt loam / mod to | o strong  |              |
| >10"  | 10 YR 3/3             | · · · · · · · · · · · · · · · · · · · | 10 YR 4/6  | common/med/d  | istinct        | silty clay loam    |   |              |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: |                       | Redox.<br>Concretions/Nodu            | Reducing Conditions<br>Features (w/in 10"<br>Iles (w/in 3"; >2mm<br>face (in sandy soils | ) <u>X</u>    | -              | Organic p          | ing (in sandy soils<br>ban (in sandy soils<br>Dn Hydric Soils Lis<br>Othe | st X         |
| Hydrology:  |                       |                                       |  |               |                |                    |   |              |
| Recorded Data Available?  | No                    |                                       | Aerial photos  |               | Strm. gauge    |                    | Other:  |              |
|   |                       | Primary Hydro                         | ology Indicators   | ۰.<br>۱       | <u></u>        | econdary Hydrol    | logy Indicators   |              |
| Depth of inundation:  | patches               |                                       | Inundated  | х             | Oxidize        | d Root Channe      | is (upper 12")  |              |
| Depth to saturation:  | surface               | Saturate                              | ed in upper 12"  | X             | -              |                    | stained leaves  | **           |
| Depth to free water:  | 0"                    |                                       | Water marks  |               | •              | Local So           | il Survey Data  |              |
|   |                       |                                       | Drift lines  | ¢1004.00      | -              |                    | C-Neutral Test  |              |
|   |                       | Sed                                   | iment deposits   |               | •              |                    | Other:  |              |
|   |                       |                                       | inage patterns   | X             | -              |                    | 0.11011   |              |
| Remarks:  |                       |                                       |  |               | •              |                    |   |              |
| Wetland Determination   | on:                   |                                       | <u></u>  |               |                |                    |   |              |
|   |                       |                                       |  |               |                |                    |   |              |

| Is the hydrophytic vegetation criterion met? | YES |
|--|-----|
| Is the hydric soil criterion met?            | YES |
| Is the specific hydrology criterion met?     | YES |
| Is this sampling point within a wetland?     | YES |
| Comments:                                    |     |

| Location: East end of Heuke Rd. Map No: C3<br>Covardin class:<br>HCM Class: FRAME<br>FRAME<br>Recent Westher: 1.172* of rain in past 14 days; 88% of average<br>Do normal confision scuts on the side? Yes<br>Is the site significantly disturbed? No<br>Is the area a potential problem area? No<br>Vegetation: Dominant Plant Species<br>Herb Stratum Ind. status % Cover % rel. cover<br>Total cover: 0%<br>Vegetation: Dominant Plant Species<br>Herb Stratum Ind. status % Cover % rel. cover<br>Total cover: 0%<br>Page patients FAC<br>Garantum mole<br>UPL 100%<br>FAC 30% 30.0%<br>Map No: EXTEND<br>Total cover: 0%<br>Face cover 100%<br>Face cover 20%<br>Face cover 20%<br>Face cover 20%<br>Face cover 100%<br>Face cover 100%<br>Face cover 100%<br>Face cover 20%<br>Face cover 100%<br>Face cover 100%<br>Face cover 20%<br>Face cover 100%<br>Face cover 20%<br>Face cover 100%<br>Face cover 100%<br>Face cover 20%<br>Face cover 100 cover 20%<br>Face cover 20%<br>Face cover 100 cover 20%<br>Face cover 20%<br>Face cover 100  | Location: East end of Heuke Rd. Map No: C3<br>Covardin Class:<br>Field Investigator(s): RFRMB<br>Recent Weather: Information exists on the site? Yes<br>the site site significantly disturbe? No<br>is the area a potential problem area? No<br>is the area apotential problem area  |  |                   | Wetl                       | and Determi                               | nation Data   | a Form         |                     |  |             |
|--|---|--|-------------------|----------------------------|---|---------------|----------------|---------------------|--|-------------|
| Location: East end of Heuke Rd. Map No: C3<br>Covardin class:<br>HCM Class: FRAME<br>FRAME<br>Recent Westher: 1.172* of rain in past 14 days; 88% of average<br>Do normal confision scuts on the side? Yes<br>Is the site significantly disturbed? No<br>Is the area a potential problem area? No<br>Vegetation: Dominant Plant Species<br>Herb Stratum Ind. status % Cover % rel. cover<br>Total cover: 0%<br>Vegetation: Dominant Plant Species<br>Herb Stratum Ind. status % Cover % rel. cover<br>Total cover: 0%<br>Page patients FAC<br>Garantum mole<br>UPL 100%<br>FAC 30% 30.0%<br>Map No: EXTEND<br>Total cover: 0%<br>Face cover 100%<br>Face cover 20%<br>Face cover 20%<br>Face cover 20%<br>Face cover 100%<br>Face cover 100%<br>Face cover 100%<br>Face cover 20%<br>Face cover 100%<br>Face cover 100%<br>Face cover 20%<br>Face cover 100%<br>Face cover 20%<br>Face cover 100%<br>Face cover 100%<br>Face cover 20%<br>Face cover 100 cover 20%<br>Face cover 20%<br>Face cover 100 cover 20%<br>Face cover 20%<br>Face cover 100  | Location: East end of Houke Rd. Map No: C3 Coverdin Class: HOM Cla  | Damascus Natura  | I Features        | Inventor                   | v   |               | WETLAND:       | RO-F-02             |  |             |
| Cowardin Class:       Piot No:       PLOT 4         Hold Not Class:       Priot No:       PLOT 4         Bit Bit Stagnificantly disturbed?       No       No         Stab stagnificantly disturbed?       No       No         Vegetation:       Dominant Plant Species       Total cover:       0%         Horb Stratum       Ind. status       % Cover       % rel. cover         Total cover:       100%       Poortion       0%         Pag pratenals:       FAC       30%       30.0%         Servatum molis       FACU       5%       5.0%       Total cover:       0%         Presenum molis       FACU       7%       10.0%       Septim/s Brub Stratum       Ind. status       % Cover       % rel. cove         Epidotum watsoni (alkatum)       FACU       10.0%       Septim/s Brub Stratum       Ind. status       % Cover       % rel. cove         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       33%         Remarks:       Delens sit loam, 3-12%       Hydric inclusions?       Y   | Cowardin Class:<br>Hind M Class:<br>Field Investigator(s):<br>FRMB:<br>Field Investigator(s):<br>Field Investiga  |  |                   |                            | 5   |               |                |                     |  |             |
| HGM Class:       IVERTUPL:       UPL         Field Investigation (s):       RR/MB       Date:       3/16/2007         Becent Weather:       1.72" of rain in past 14 days; 83% of average       Date:       3/16/2007         Do normal continuons exist on the site?       No       Statum       Ind. status       % Cover       % rel. cover         Yead cover:       100%       No       Total cover:       10%       Cover       % rel. cover         Parage and the site?       30.0%       30.0%       Total cover:       0%       Scover       % rel. cover         Parage and classing       FAC       39%       30.0%       Total cover:       0%       Scover       % rel. cover         Parage and classing       FAC       39%       30.0%       Total cover:       20%       Cover       % rel. cover         Parage and classing       FACU       10.0%       10.0%       Total cover:       20%       Cover       % rel. cover         Parage and classing       FACU       10%       10.0%       Total cover:       20%       Cover       % rel. cover         Solids:       Matrix color       Remarks:       1       of       3       33%         Solids:       Matrix color       Redoaling Continnet <th>HGM Class:       MERMB         Recent Weather:       127: of rain in past 14 days, 88% of average<br/>Do normat confliction subst on the site?       Yes         Do normat confliction subst on the site?       No       Yes         Is the site significantly disturbed?       No       No         Vegetation:       Dominant Plant Species       Test source:       0%         Horb Stratum       Ind. status       % Cover       % rel. cover       Total cover:       0%         Paratonic FAC       30%       30.0%       Mo       Status       Mc       Mc         Paratonic FACU       30%       50.0%       Status       Mc       Mc       Mc         Paratonic FACU       30%       50.0%       Cover       % rel. co       Mc       Mc<!--</th--><th></th><th></th><th></th><th></th><th>-</th><th>•</th><th></th><th></th><th></th></th>  | HGM Class:       MERMB         Recent Weather:       127: of rain in past 14 days, 88% of average<br>Do normat confliction subst on the site?       Yes         Do normat confliction subst on the site?       No       Yes         Is the site significantly disturbed?       No       No         Vegetation:       Dominant Plant Species       Test source:       0%         Horb Stratum       Ind. status       % Cover       % rel. cover       Total cover:       0%         Paratonic FAC       30%       30.0%       Mo       Status       Mc       Mc         Paratonic FACU       30%       50.0%       Status       Mc       Mc       Mc         Paratonic FACU       30%       50.0%       Cover       % rel. co       Mc       Mc </th <th></th> <th></th> <th></th> <th></th> <th>-</th> <th>•</th> <th></th> <th></th> <th></th>  |  |                   |                            |   | -             | •              |                     |  |             |
| Field Investigator(s): RFAMB Recent Weather: 17.27 of rain in past 14 days; 88% of everage Do normal conditions exist on the site? Is the site significantly disturbed? Is the area potential problem area? No Vegetation: Dominant Plant Species Vegetation: Dominant Species Vegetation: Delens sitt loam, 3-12% Vegetation: Vegetation   | Field Investigator(s): RRMB Recent Weathor: 1.727 of Tain in past 14 days, 88% of average Do normal conditions exist on the site? Is the site asignificantly disturbed? Is the site asignificantly disturbed? No Vegetation: Dominant Plant Species Vegetation: Delena sili loarn, 3-12% Delena Sili Lasr, 2-12% Delena Sili Lasr, 3-12% Delena Sili Lasr, 3  |  | ·                 |                            |   | -             |                |                     |  | -           |
| Recent Weather:       1.22" of rain in past 14 days; 88% of average         Do normal continuous exist on the site?       Yes         Is the site significantly disturbed?       No         Vegetation:       Dominant Plant Species         Horb Stratum       Ind. status       % Cover         Yes       No         Vegetation:       Dominant Plant Species         Horb Stratum       Ind. status       % Cover         Yes       Solos         Paraacom Adicate       FAC       39%         Yapochansis       FAC       39%         Paraacom Adicate       FACU       10%         Garanium mole       FACU       10%         Garanium mole       FACU       10%         Grasin averace       FACU       10%         Travaacom Adicate       FACU       10%         Grasin averace       FACU       10%         Epiobum vataoni (cilatum)       FACU       10%         Paraacom Adicate       FACU       10%         Solis:        1       of       3       33%         Renarks:       Solis:        Portic Reduc Conc.       1       of       3       33%         Solis:   | Recent Weather:       1.72° of fail in past 14 days; 88% of sverage         Do normal conditions exist on the site?       Yes         Is the site significantly disturbe?       No         Is the site significantly disturbe?       No         Vegetation:       Dominant Plant Species         Herb Stratum       Ind. status       % Cover         Total cover:       100%       30.0%         Total cover:       100%       00.0%         Poor prannals       FAC       30%       50.0%         Transacture motionale       FACU       30%       50.9%         Transacture motionale       FACU       100%       10.0%         Metous meeting       FACU       100%       Total cover:       0%         Procentionale       FACU       10%       Total cover:       20%         Procentionale       FACU       10%       Total cover:       20%         Solis:       Map Unit Name:       Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       33%         Remarks:  |  | DD/MD             |                            |   | -             |                |                     |  |             |
| Do normal conditions exist on the site? Yes<br>is the site significantly disturbed? No<br>is the area a potential problem area? No<br>Vegetation: Dominant Plant Species<br>Herb Stratum Ind. status % Cover % rel. cover<br>Total cover: 0%<br>Pop pratensis FAC<br>100%<br>Pop pratensis FACU<br>100%<br>Geranium mole<br>UPL 10%<br>100%<br>Geranium mole<br>UPL 10%<br>100%<br>Geranium mole<br>FACU<br>10%<br>Sapling! Shrub Stratum Ind. status % Cover % rel. cover<br>100%<br>Cover % rel. cover<br>100%<br>100%<br>Geranium mole<br>UPL 10%<br>100%<br>Geranium mole<br>FACU<br>10%<br>Sapling! Shrub Stratum Ind. status % Cover % rel. cover<br>100.0%<br>177 acacover: 20%<br>Robus Biochar FACU<br>10%<br>100.0%<br>100%<br>Cover % rel. cover<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100.0%<br>100 | Do normal conditions exist on the site? Yes<br>the site site significantly disturbed? No<br>Is the area a potential problem area? No<br>Vegetation: Dominant Plant Species<br>Herb Stratum Ind. status % Cover % rel. cover<br>Total cover: 100%<br>Pag pretensis PAC<br>Pag pretensis PAC<br>Page Pretensis Preten |  |                   |                            | 000/ +f                                   | -             | Date:          | 3/10/2007           |  |             |
| Is the site significantly disturbed? Is the area a potential problem area? Vegetation: Dominant Plant Species Vegetation: Dominant Plant Species Vegetation: Ind. status % Cover % rel. cover Total cover: 100% Total cover: 0% Total cover: 0   | Is the stee significantly disturbed? Is the area a potential problem area? Vegetation: Dominant Plant Species Vegetation: Dominant Plant Species Vegetation: Dominant Plant Species Vegetation: Io0% Vegetation: I  |  | ······            | past 14 days;              |   |               |                |                     |  |             |
| Is the area a potential problem area? No<br>Vegetation: Dominant Plant Species<br>Herb Stratum Ind. status % Cover % rel. cover<br>Total cover: 100%<br>Percent of Cover: 100%<br>Percent of Cover: 100%<br>Depth of Cover: 100%<br>Percent of dominant species PACU 10%<br>Epilobium vetsorii (cilatum) PACW<br>Percent of dominant species that are OBL, FACW, and/or FAC 100%<br>Percent of dominant species that are OBL, FACW, and/or FAC 100%<br>Soils:<br>Percent of dominant species that are OBL, FACW, and/or FAC 100%<br>Soils:<br>Map Unit Name: Delena silt loam, 3-12%<br>Humic Fragiaquepts Retox Cone, Retox Desc.<br>Percent of dominant species that are OBL, FACW, and/or FAC 100%<br>Soils:<br>Map Unit Name: Delena silt loam, 3-12%<br>Humic Fragiaquepts Retox Cone, Retox Desc.<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or FAC 200%<br>Percent of dominant species that are OBL, FACW, and/or fAC 200%<br>Percent of dominant species that are OBL, FACW, and/or fAC 200%<br>Percent of dominant species that are OBL, FACW, and/or fAC 200%<br>Percent of dominant species that are OBL, FACW, and/or fAC 200%<br>Percent of dominant species that are OBL, FACW, and/or fAC 200%<br>Percent of dominant species that areak 200%<br>Percent species that areak  | Is the area a potential problem area?           No           Vegetation:         Dominant Plant Species           Herb Stratum         Ind. status         % Cover         % rel. cover           Total cover:         100%         30%         30.0%           Pag pratansis         FAC         30%         30.0%           Cover:         100%         0%         0%           Pag pratansis         FAC         30%         30.0%           Gearantum mole         UPL         10%         10.0%           Spotestis radicata         FACU         5%         5.0%           Taraxeour officinate         FACU         10.0%         Sapling/ Strub Stratum         Ind. status         % Cover         % rel. co           Epilobium watsonil (ciliatum) FACW         15%         15.0%         Total cover:         20%         100.0°           Cistum averans         FACU         10         7         Rebus diacolor (R, armenia: FACU         20%         100.0°           Cistum averans         FAC         T           1         of         3         33%           Solls:         Map Unit Name:         Delena silt loam, 3-12%         Mydric soll?         Yes         Hydric sol?         Hydric sol?         Yes  |  |                   |                            |   |               |                |                     |  |             |
| Vegetation:         Dominant Plant Species           Herb Stratum         Ind. status         % Cover         % rel. cover           Total cover:         100%         Total cover:         0%           Pag pratensis:         FAC         30%         30.0%           Makus molis:         FACU         30%         30.0%           Vegetation:         0%         30.0%         0%           Pag pratensis:         FACU         30%         30.0%           Waranum nolic:         FACU         5%         5.0%         0%           Transacum officinale         FACU         T         Cover:         20%           Total cover:         20%         Total cover:         20%           Rubus discolor (PL ammenia: FACU         Total cover:         20%           Record of dominant species that are OBL, FACW, and/or FAC :         1         of         3         33%           Remarks:         Solitis:         Map Unit Name:         Delena silt loam, 3-12%         Hydric soil? Yes         Hydric so   | Vegetation:         Dominant Plant Species           Herb Stratum         Ind. status         % Cover         % rel. cover         Tree Stratum         Ind. status         %, Cover         % rel. co           Total cover:         100%         Total cover:         0%         0%         0%           Pag pratensis         FAC         30%         30.0%         0%         0%         0%           Pag pratensis         FAC         30%         30.0%         0% <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th></t<>   |  |                   |                            |   |               |                |                     |  |             |
| Herb Stratum       Ind. status       % Cover       % rel. cover       Tree Stratum       Ind. status       % Cover       % rel. cover         Total cover:       100%       30.0%       30.0%       0%       0%       0%         Por prelensis       FAC       30%       30.0%       0%       0%       0%         Prograndensis       FACU       30%       50.0%       0%       0%       0%         Geranium molie       UPL       10%       10.0%       Sapiling/ Shrub Stratum       Ind. status       % Cover       % rel. cove         Taraxecum officinale       FACU       T       50.%       Total cover:       20%       100.0%         Epilobum weatsonil [ciliatum]       FACW-       15%       Total cover:       20%       100.0%         Epilobum weatsonil [ciliatum]       FACW-       15%       Total cover:       20%       100.0%         Almus rubra       FAC       T       10.0%       Sapiling/ Shrub Stratum       Ind. status       % Cover       % rel. cove         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3 = 33%       33%         Map Unit Name:       Delens silt loam, 3-12%       Drainage Class:       poorly drained       Hydric inclusions?   | Herb Stratum       Ind. status       % Cover       % rel. cover       Tree Stratum       Ind. status       % Cover       % rel. cover         Total cover:       100%       FAC       30%       30.0%       0%       0%         Poe pratensis       FAC       30%       30.0%       0%       0%       0%         Poe pratensis       FAC       30%       30.0%       0%       0%       0%         Geranium mole       UPL       10%       10.0%       Saplingi Shrub Stratum       Ind. status       % Cover       % rel. co         Taraxecum officinale       FACU       5%       5.0%       Total cover:       20%       100.0%         Epilobium watsonii [ciliatum]       FACU+       16%       15.0%       Total cover:       20%       100.0%         Epilobium watsonii [ciliatum]       FACU+       16%       16.0%       Total cover:       20%       100.0%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       33%         Soils:       Map Unit Name:       Delena siti loam, 3-12%       Drainage Class:       poorly drained         Taxonomy:       Humic Fragiaquepts       Redox Conc.       Redox Desc.       Texture/Structure/etc         Lofe   | is the area a potential prot                                   | olem area?        |                            | <u> </u>                                  |               |                |                     |  |             |
| Total cover:       100%       Total cover:       0%         Poa pratensis       FAC       30%       30.0%         Poa pratensis       FACU       30%       30.0%         Geranium molie       UPL       10%       10.0%         Geranium molie       UPL       10%       10.0%         Taraxacum officinale       FACU       5%       5.0%         Taraxacum officinale       FACU       Total cover:       20%         Epilobium wetsonii [cillatum]       FACU       10%       10.0%         Epilobium wetsonii [cillatum]       FACU       10%       10.0%         Rubus discolor [R. armeniac FACU       20%       100.0%         Remarks:        100 %       10.0%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       33%         Remarks:       Delena silt loam, 3-12%       Drainage Class:       poorly drained       Texture/Structure/s  | Total cover:       100%       Total cover:       0%         Poa pretensis       FAC       30%       30.0%   | Vegetation:  | Dominant Pla      | nt Species                 |   |               |                |                     |  |             |
| Poa pratensis       FAC       30%       30.0%         Holcus molits       FACU       30%       30.0%         Holcus molits       FACU       30%       30.0%         Geranium molite       UPL       10%       10.0%         Hypochaeris radicata       FACU       T         Tareacoum dificinate       FACU       T         Cirsium arvense       FACU       Total cover:       20%         Epilobium wetsonii (ciliatum)       FACW       15%       15.0%       Total cover:         Zerisium arvense       FACU       T       20%       100.0%         Remarks:       Return bits dissolor (R. armeniac FACU       20%       100.0%         Return bits dissolor (R. armeniac FACU       20%       100.0%         Remarks:   | Pap pratensis       FAC       30%       30.0%         Holous molils       FACU       30%       30.0%         Geranium mole       UPL       10%       10.0%         Hypochaoris radicata       FACU       5%       5.0%         Taraxacum officinate       FACU       7%       5.0%         Epilobium vatsonii (ciliatum)       FACU       10%       10.0%         Taraxacum officinate       FACU       1       0%         Cirsium arvense       FACU+       15%       15.0%         Taraxacum officinate       FACU       20%       100.0%         Epilobium watsonii (ciliatum)       FACW-       15%       10.0%         Remarks:  | Herb Stratum   | Ind. status       | % Cover                    | % rel. cover                              | Tree Stratun  | ı              | Ind. status         | % Cover                                | % rel. cove |
| Pag pratensis       FAC       30%       30.0%         Holcus mollis       FACU       30%       30.0%         Every processing and the second seco  | Pag pratensis       FAC       30%       30.0%         Holcus mollis       FACU       30%       30.0%         Geranium molle       UPL       10%       10.0%         Hypochaoris radicata       FACU       5%       5.0%         Tarasceum officinale       FACU       10%       10.0%         Epilobium vetsonii (cillatum)       FACU       10%       10.0%         Tarasceum officinale       FACU       1       0%         Tarasceum officinale       FACU       1       0%         Tarasceum officinale       FACU       1       0%         Tarasceum officinale       FACU       1       0%       10.0%         Tarasceum officinale       FACU       1       0f       3       33%         Remarks:  | Total cover: 100%  | D                 |                            |   | Total cover:  | 0%             | ,<br>0              |  |             |
| Holcus molifs       FACU       30 %         Geranium molie       UPL       10%       10.0%         Geranium molie       UPL       10%       10.0%         Taraxacum officinate       FACU       T         Cristum arvense       FACU       T         Epidobum watsonil [ciliatum]       FACU+       10%         Epidobum watsonil [ciliatum]       FACU+       10%         Epidobum watsonil [ciliatum]       FACU+       10%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       33%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       33%         Remarks:       Soills:       Map Unit Name:       Delena silt loam, 3-12%       Drainage Class:       poorly drained         Hydric soil       Humic Fraglaquepts       Redox Conc.       Redox Desc.       Texture/Structureletc         -16"       7.5 YR 4/8       few       silt loam / dpi mod crumby         Hydric soil indicators:       Humic Color       Redox Features Win 10%       Organic streaking (in sandy soils)         Sulficic Odor       ConcretionsNotules (win 3* >2mn)       Organic streaking (in sandy soils)       Organic streaking (in sandy soils)         Olig/low chroma <t< td=""><td>Holcus mollis       FACU       30.0%       30.0%         Geranium mole       UPL       10%       10.0%         Geranium mole       UPL       10%       10.0%         Taraxecum officinate       FACU       T       5.0%         Taraxecum officinate       FACU       T       5.0%         Epilobium watsonii (ciliatum)       FACU       100.0%       20%         Epilobium watsonii (ciliatum)       FACU       10%       10.0%         Epilobium watsonii (ciliatum)       FACU       10%       10.0%         Cirstum arvense       FACU       T       20%         Rebus discolar (FR. amenia FACU       20%       100.0%         Alnus rubra       FAC       T       100.0%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3&lt;:33%</td>         Remarks:      </t<>   | Holcus mollis       FACU       30.0%       30.0%         Geranium mole       UPL       10%       10.0%         Geranium mole       UPL       10%       10.0%         Taraxecum officinate       FACU       T       5.0%         Taraxecum officinate       FACU       T       5.0%         Epilobium watsonii (ciliatum)       FACU       100.0%       20%         Epilobium watsonii (ciliatum)       FACU       10%       10.0%         Epilobium watsonii (ciliatum)       FACU       10%       10.0%         Cirstum arvense       FACU       T       20%         Rebus discolar (FR. amenia FACU       20%       100.0%         Alnus rubra       FAC       T       100.0%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3<:33%  |  |                   | 30%                        | 30.0%                                     |               |                | -                   |  |             |
| Geranium molle       UPL       10%       10.0%         hypochaars radicata       FACU       5%       5.0%         Taraxacum officinale       FACU+       10%       10.0%         Cirsium arvense       FACU+       10%       10.0%         Epiloblum watsonii [ciliatum]       FACU+       10%       10.0%         Rubus discolor [R. armeniac FACU       20%       100.0%         Alrus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       33%         Remarks:  | Gerandum molle       UPL       10%       10.0%       5%       5.0%         Appochaer's radicata       FACU       5%       5.0%       T       T         Cirsium arvense       FACU       T       10.0%       Sapling/ Shrub Stratum       Ind. status       % Cover       % rel. co         Epiloblum watsonii [ciliatum]       FACU       15.0%       Total cover:       20%       100.0°         Alrus rubra       FAC       T       10%       10.0%       Rubus discolor [R. armeniac FACU       20%       100.0°         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3 =       33%         Soils:  |  |                   |                            |   |               |                |                     |  |             |
| Hypochseris radicata       FACU       5%       5.0%         Taraxacum officinate       FACU       T         Cisium arvense       FACU+       10%         Epilobum watsonii [olilatum]       FACU+       15%         Epilobum watsonii [olilatum]       FACU+       15%         Percent of dominant species that are OBL, FACW, and/or FAC :  | Hypochaeris radicata       FACU       T         Taraxacum officinate       FACU       T         Taraxacum officinate       FACU       T         Cristim arvense       FACU+       10%         Epilobum watsonii [olilatum]       FACU+       15%         Epilobum watsonii [olilatum]       FACU+       15%         Percent of dominant species that are OBL, FACW, and/or FAC :  |  |                   |                            | · ·                                       |               |                |                     | <u></u>                                | ·           |
| Taraxacum officinale       FACU       T         Cirsium arvense       FACU+       10%       10.0%       Sapling/ Shrub Stratum       Ind. status       % Cover       % rel. cove         Epilobium watsonii [ciliatum] FACW-       15%       10.0%       Total cover:       20%       100.0%         Rubus discolor [R. armeniat FACU       20%       100.0%       Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Soils:  | Taraxacum officinale       FACU       T         Cirsium avense       FACU+       10%       10.0%       Sapling/ Shrub Stratum       Ind. status       % Cover       % rel. cc         Epilobium watsonii [ciliatum]       FACU-       15%       15.0%       Total cover:       20%       100.0°         Rubus discolor /R. armeniac FACU       20%       100.0°       Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3 = 33%         Soils:  |  |                   |                            |   |               |                |                     |  |             |
| Cirsium arvense       FACU+       10%       10.0%       Sapling/ Shrub Stratum       Ind. status       % Cover       % rel. cove         Epilobium watsonii [ciliatum]       FACW-       15%       15.0%       Total cover:       20%       20%       100.0%         Percent of dominant species that are OBL, FACW, and/or FAC :  | Cirsium arvense       FACU+       10%       10.0%       Sapling/ Shrub Stratum       Ind. status       % Cover       % rel. co         Epilobium watsonii [ciliatum]       FACW-       15%       15.0%       Total cover:       20%       100.0%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:   | **   |                   |                            | 5.0%                                      |               |                |                     |  |             |
| Epilobium watsonii [ciliatum] FACW-       15%       15.0%       Total cover:       20%         Rubus discolor [R. armeniat FACU       20%       100.0%         Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:  | Epilobium watsonii [ciliatum] FACW-       15%       15.0%       Total cover:       20%         Rubus discolor [R. armeniac FACU       20%       100.0°         Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:   |  |                   |                            |   |               |                |                     |  |             |
| Rubus discolor (R. armeniac FACU       20%       100.0%         Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:   | Rubus discolor (R. armenia: FACU       20%       100.0'         Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:  |  |                   |                            |   | • •           |                |                     | % Cover                                | % rel. cove |
| Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:   | Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:  | Epilobium watsonii [ciliatum]                                  | FACW-             | 15%                        | 15.0%                                     | Total cover:  | 20%            | 0                   |  |             |
| Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:   | Alnus rubra       FAC       T         Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:  |  |                   |                            |   | Rubus discol  | or [R. armenia | a FACU              | 20%                                    | 100.0%      |
| Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:   | Percent of dominant species that are OBL, FACW, and/or FAC :       1       of       3       =       33%         Remarks:  |  | · · · · · · · · · | <u> </u>                   |   |               |                |                     | т                                      |             |
| Remarks:   | Remarks:  |  |                   |                            |   |               |                | ·····               |  |             |
| Remarks:   | Remarks:       Delena silt loam, 3-12%       Drainage Class:       poorly drained         Map Unit Name:       Humic Fragiaquepts       Hydric soil?       Yes       Poorly drained         Depth       Horizon       Matrix Color       Redox Conc.       Redox Desc.       Texture/Structure/etc         0-16"       7.5 YR 4/6       few       silt loam / dry/ mod/ crumbly         Histosol       Reducing Conditions       Organic streaking (in sandy soils)       Organic streaking (in sandy soils)         Histosol       Reducing Conditions       Organic streaking (in sandy soils)       Organic streaking (in sandy soils)         Sulficit Odor       Concretions/Ndotules (win 3"; >2mm)       Organic streaking (in sandy soils)       Other         Gley/low chroma       High organic content in surface (in sandy soils)       Other       Other         Remarks:  | · · · · · · · · · · · · · · · · · · ·                          |                   |                            |   |               |                |                     |  |             |
| Taxonomy:       Humic Fragiaquepts       Hydric soil?       Yes       Hydric inclusions?       Yes         Depth       Horizon       Matrix Color       Redox Conc.       Redox Desc.       Texture/Structure/etc         0-16"       7.5 YR 4/6       few       silt loam / dry/ mod/ crumbly         Hydric soil indicators:         Hist. Epipedon       Reducing Conditions       Organic streaking (in sandy soils)         Sulfidic Odor       Concretions/Nodules (win 3"; 2mm)       Organic streaking (in sandy soils)         Gley/low chroma       High organic content in surface (in sandy soils)       Organic streaking (in sandy soils)         Remarks:        Organic streaking (in sandy soils)       Organic streaking (in sandy soils)         Hydrology:        Concretions/Nodules (win 3"; 2mm)       Organic streaking (in sandy soils)         Remarks:        High organic content in surface (in sandy soils)       Other         Primary Hydrology Indicators       Strm. gauge       Other:          Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")          Depth to free water:       >16"       Saturated in upper 12"       Water stained leaves          Depth to free water:       >16"       Water marks  | Taxonomy:       Humic Fragiaquepts       Hydric soil?       Yes       Hydric inclusions?       Yes         Depth       Horizon       Matrix Color       Redox Conc.       Redox Desc.       Texture/Structure/etc       0.16"         0-16"       7.5 YR 4/6       few       sill loan / dry/ mod/ crumbly         Hydric soil indicators:         Hist. Epipedon       Reducing Conditions       Organic streaking (in sandy soils)         Sulfidic Odor       Concretions/Modules (w/in 3", >2mm)       Organic streaking (in sandy soils)         Gley/low chroma       High organic content in surface (in sandy soils)       Other         Remarks:        Depth of inundation:       Other         Etimary Hydrology Indicators         Depth to free water:       >16"       Saturated in upper 12"         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines         Drift lines         Drift lines         Primary Bydrology Indicators         Oxidized Root Channels (upper 12")         Depth of inundation:         Pole"       Saturated in upper 12"         Depth to free water:       >16"       Water marks  |  |                   |                            | <u></u>                                   |               | <u></u>        |                     |  |             |
| Depth       Horizon       Matrix Color       Redox Conc.       Redox Desc.       Texture/Structure/etc         0-16"       7.5 YR 4/6       few       silt loam / dry/ mod/ crumbly         Hydric soil indicators:<br>Histosol         Hist Epipedon       Redox Features (w/in 10")       Organic streaking (in sandy soils)         Sulfidio Odor       Concretions/Nodules (w/in 3", szmm)       Organic pan (in sandy soils)         Gley/low chroma       High organic content in surface (in sandy soils)       Other         Remarks:  | Depth       Horizon       Matrix Color       Redox Conc.       Redox Desc.       Texture/Structure/etc         0-16"       7.5 YR 4/6       few       silt loam / dry/ mod/ crumbly         Hydric soil indicators:<br>Histosol         Hist Epipedon       Reducing Conditions<br>Redox. Features (w/in 10")       Organic streaking (in sandy soils)         Sulfidic Odor       Concretions/Modules (w/in %", s2mm)       Organic streaking (in sandy soils)         Gley/low chroma       High organic content in surface (in sandy soils)       Other         Remarks:        Other       Other         Primary Hydrology Indicators         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Saturated in upper 12"       Water-stained leaves         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Remarks:       Drift lines       FAC-Neutral Test       Other:         Remarks:       Drainage patterns       Other:       Mater  | Map Unit Name:   | Delena silt loai  | m, 3-12%                   |   | _Drainage Cla | ass:           |                     |  |             |
| 0-16"       7.5 YR 4/6       few       silt loam / dry/ mod/ crumbly         Hydric soil indicators:<br>Histosol       Reducing Conditions       Organic streaking (in sandy soils)         Hist. Epipedon       Redox. Features (w/in 10")       Organic pan (in sandy soils)         Sulfidic Odor       Concretions/Nodules (w/in 3"; >2mm)       Organic pan (in sandy soils)         Gley/low chroma       High organic content in surface (in sandy soils)       On Hydric Soils List         Remarks:   | 0-16"       7.5 YR 4/6       few       silt loam / dry/ mod/ crumbly         Hydric soil indicators:<br>Histosol       Reducing Conditions<br>Redox. Features (w/in 10")       Organic streaking (in sandy soils)         Sufficie Odor       Concretions/Nodules (w/in 10")       Organic streaking (in sandy soils)         Gley/low chroma       High organic content in surface (in sandy soils)       On Hydric Soils List         Remarks:       Other       Other         Hydrology:       Primary Hydrology Indicators       Strm. gauge       Other:         Perimary Hydrology Indicators       Secondary Hydrology Indicators       Oxidized Root Channels (upper 12")         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Water marks       Local Soil Survey Data         Depth to free water:       >16"       Water marks       Coal Soil Survey Data         Drift lines       Drift lines       FAC-Neutral Test       Other:         Remarks:       Drainage patterns       Other:       Other:  | Taxonomy:  | Humic Fragiaq     | uepts                      |   | Hydric soil?  | Yes            | Hydric inclusi      | ons?                                   | Yes         |
| Hydric soil indicators:       Reducing Conditions       Organic streaking (in sandy soils)         Hist.Epipedon       Redox. Features (w/in 10")       Organic streaking (in sandy soils)         Sulfidic Odor       Concretions/Nodules (w/in 3"; >2mm)       Organic pan (in sandy soils)         Gley/low chroma       High organic content in surface (in sandy soils)       Other         Remarks:       Other       Other         Hydrology:       Primary Hydrology Indicators       Strm. gauge       Other:         Primary Hydrology Indicators       Secondary Hydrology Indicators       Secondary Hydrology Indicators         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Water marks       Local Soil Survey Data         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines       FAC-Neutral Test       Other:       Other:         Drainage patterns       Orther:       Other:       Other:  | Hydric soil indicators:       Reducing Conditions       Organic streaking (in sandy soils)         Hist.Epipedon       Redox. Features (w/in 10")       Organic streaking (in sandy soils)         Sulfidic Odor       Concretions/Nodules (w/in 1", >2mm)       Organic pan (in sandy soils)         Gley/low chroma       High organic content in surface (in sandy soils)       Other         Remarks:       High organic content in surface (in sandy soils)       Other         Hydrology:       Recorded Data Available?       Yes       Aerial photos       X       Strm. gauge       Other:         Primary Hydrology Indicators       Secondary Hydrology Indicators       Secondary Hydrology Indicators       Oxidized Root Channels (upper 12")         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Water marks       Local Soil Survey Data         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines       FAC-Neutral Test       Other:       Drainage patterns         Remarks:   | Depth Horizon  | Matrix Color      |                            | Redox Conc.                               | Redox Desc.   |                | Texture/Structu     | re/etc                                 |             |
| Histosol       Reducing Conditions       Organic streaking (in sandy soils)         Hist. Epipedon       Redox. Features (w/in 10")       Organic pan (in sandy soils)         Sulfidic Odor       Concretions/Nodules (w/in 3"; >2mm)       On Hydric Soils List         Gley/low chroma       High organic content in surface (in sandy soils)       Offer         Remarks:       Migh organic content in surface (in sandy soils)       Offer         Hydrology:       Primary Hydrology Indicators       Strm. gauge       Other:         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Saturated in upper 12"       Water-stained leaves         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines       FAC-Neutral Test       Drift lines       FAC-Neutral Test         Remarks:       Drainage patterns       Other:       Other:   | Histosol       Reducing Conditions       Organic streaking (in sandy soils)         Hist. Epipedon       Redox. Features (w/in 10")       Organic streaking (in sandy soils)         Sulfidic Odor       Concretions/Nodules (w/in 3", >2mm)       On Hydric Soils List         Gley/low chroma       High organic content in surface (in sandy soils)       Other         Remarks:       High organic content in surface (in sandy soils)       Other         Hydrology:       Primary Hydrology Indicators       Strm. gauge       Other:         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Saturated in upper 12"       Water marks         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines       Drift lines       FAC-Neutral Test       Other:         Remarks:       Drainage patterns       Other:       Other:   | 0-16"  | 7.5 YR 4/6        |                            | few                                       |               |                | silt loam / dry/ mo | od/ crumbly                            |             |
| Recorded Data Available?       Yes       Aerial photos       X       Strm. gauge       Other:         Depth of inundation:       NONE       Inundated       Secondary Hydrology Indicators       Secondary Hydrology Indicators         Depth to saturation:       >16"       Inundated       Oxidized Root Channels (upper 12")   | Recorded Data Available?       Yes       Aerial photos       X       Strm. gauge       Other:         Primary Hydrology Indicators       Primary Hydrology Indicators       Secondary Hydrology Indicators       Secondary Hydrology Indicators         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")  | Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma |                   | Redox.<br>Concretions/Nodu | Features (w/in 10"<br>lles (w/in 3"; >2mm | )             | -              | Organic p           | an (in sandy soil<br>n Hydric Soils Li | s)          |
| Primary Hydrology Indicators       Secondary Hydrology Indicators         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Saturated in upper 12"       Water-stained leaves         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Depth to free water:       >16"       Water marks       Cocal Soil Survey Data         Depth to free water:       >16"       Drift lines       FAC-Neutral Test         Drainage patterns       Other:       Other:       Other:   | Primary Hydrology Indicators       Secondary Hydrology Indicators         Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Saturated in upper 12"       Water-stained leaves         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Dift lines       Drift lines       FAC-Neutral Test         Drainage patterns       Other:       Inundated  | Hydrology:   |                   |                            |   |               |                |                     |  |             |
| Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Saturated in upper 12"       Water-stained leaves         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines       Drift lines       Other:       Other:         Remarks:       Imundated       Imundated       Oxidized Root Channels (upper 12")  | Depth of inundation:       NONE       Inundated       Oxidized Root Channels (upper 12")         Depth to saturation:       >16"       Saturated in upper 12"       Water-stained leaves         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines       Sediment deposits       Other:         Drainage patterns       Other:       Other:  | Recorded Data Available?                                       |                   |                            |   | x             |                |                     |  |             |
| Depth to saturation:       >16"       Saturated in upper 12"       Water-stained leaves         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines       FAC-Neutral Test  | Depth to saturation:       >16"       Saturated in upper 12"       Water-stained leaves         Depth to free water:       >16"       Water marks       Local Soil Survey Data         Drift lines       FAC-Neutral Test   |  |                   | Primary Hydro              | ology Indicators                          |               |                |                     |  |             |
| Depth to free water:           >16"       Water marks       Local Soil Survey Data         Drift lines       FAC-Neutral Test         Sediment deposits       Other:         Drainage patterns       Remarks:  | Depth to free water: >16" Water marks Local Soil Survey Data Drift lines FAC-Neutral Test Sediment deposits Drainage patterns Remarks:  | Depth of inundation:   | NONE              |                            | Inundated                                 |               | Oxidize        | d Root Channe       | ls (upper 12'')                        |             |
| Depth to free water:           >16"       Water marks       Local Soil Survey Data         Drift lines       FAC-Neutral Test         Sediment deposits       Other:         Drainage patterns   | Depth to free water: >16" Water marks Local Soil Survey Data Drift lines FAC-Neutral Test Sediment deposits Drainage patterns Remarks:  | Depth to saturation:   | >16"              | Saturate                   | d in upper 12"                            |               | -              | Water-s             | tained leaves                          |             |
| Drift lines     FAC-Neutral Test       Sediment deposits     Other:       Drainage patterns     Other:   | Drift lines       FAC-Neutral Test         Sediment deposits       Other:         Drainage patterns       Other:  | •  |                   |                            |   | ······        |                | Local Soi           | I Survey Data                          | ·           |
| Sediment deposits     Other:       Drainage patterns     Other:  | Sediment deposits     Other:       Drainage patterns     Other:   |  |                   |                            |   |               | -              |                     | -                                      |             |
| Drainage patterns  | Remarks:  |  |                   | Cod                        |   |               | <u></u>        |                     |  |             |
| Remarks:   | Remarks:  |  |                   |                            |   |               |                |                     | Other.                                 |             |
| Wetland Determination:   | Wetland Determination:  | Remarks:   |                   | Dra                        | inage patterns                            |               | -              |                     |  |             |
|  |   | Wetland Determination  |                   |                            |   |               |                |                     |  |             |

Is the hydric soil criterion met? NO NO NO Is the specific hydrology criterion met? Is this sampling point within a wetland? Comments:

### Wetland Determination Data Form

| Damascus Natura                | l Features                             | Inventor            | у                    |                               | WETLAND:         | SU-A-01         | OFF SITE             |  |
|--------------------------------|--|---------------------|----------------------|-------------------------------|------------------|-----------------|----------------------|--|
| Location:                      | West of 250th a                        | at Victoria St.     |                      |                               | Map No:          | C6              |                      |  |
| Cowardin Class:                | PEM, POW                               |                     |                      | •                             | Plot No:         | OFF SITE        |                      |  |
| HGM Class:                     | SH                                     |                     |                      |                               | WET/UPL:         | WET             |                      |  |
| Field Investigator(s):         | TB/RR                                  |                     |                      | •                             | Date:            | 3/9/2007        |                      | ······································ |
|                                |  | naet 1/ dave: 1     | 117% of average      |                               | Dute.            | 0/0/2001        |                      |  |
| Do normal conditions exist     |  | past 14 days,       |                      | ,                             |                  |                 |                      |  |
|                                |  |                     | Yes                  |                               |                  |                 |                      |  |
| Is the site significantly dist |  |                     | No                   |                               |                  |                 |                      |  |
| Is the area a potential prob   | lem area?                              |                     | No                   |                               |                  |                 |                      |  |
| Vegetation:                    | Dominant Plar                          | nt Species          |                      |                               |                  |                 |                      |  |
| Herb Stratum                   | Ind. status                            | % Cover             | % rel. cover         | Tree Stratun                  | n                | Ind. status     | % Cover              | % rel. cover                           |
| Total cover: 70%               |  |                     |                      | Total cover:                  | 5%               | )               |                      |  |
| Phalaris arundinacea           | FACW                                   | 5%                  | 7.1%                 | Salix lasiandi                | ra [[lucida var. | , FACW+         | 5%                   | 100.0%                                 |
| Festuca arundinacea            | FAC-                                   | 15%                 | 21.4%                |                               |                  |                 |                      | ,                                      |
| Poa pratensis                  | FAC                                    | 50%                 | * 71.4%              |                               |                  |                 |                      |  |
| r ou pratonolo                 |  |                     |                      |                               |                  |                 |                      |  |
|                                |  |                     |                      | Sapling/ Shr<br>Total cover:  | rub Stratum      | Ind. status     | % Cover              | % rel. cover                           |
|                                |  |                     |                      | Salix sp.                     |                  | FAC-FACW        | 10%                  | 100.0%                                 |
|                                | ······································ |                     |                      |                               | 1                |                 |                      | 100.0%                                 |
|                                |  |                     |                      | Rubus discoi                  | lor [R. armenia  |                 | T                    |  |
| Percent of dominant specie     | a that are OPI                         | EACW and            |                      |                               | 3                | of              |                      | - 75%                                  |
|                                | JDI present in a                       |                     | UI FAC .             |                               |                  |                 | 4                    | - 75%                                  |
| Soils:                         |  |                     |                      | -                             |                  |                 |                      |  |
| Map Unit Name:                 | Cascade silt lo                        | am 8-15%            |                      | Drainage Cla                  | 266.             | somewhat nor    | rly drained          |  |
| -                              |  |                     |                      | _                             |                  | somewhat poo    |                      | Vee                                    |
| Taxonomy:                      | Typic Fragium                          |                     | ·······              | Hydric soil?                  | ' No             | Hydric inclus   |                      | Yes                                    |
| Depth Horizon                  | Matrix Color                           |                     | Redox Conc.          | Redox Desc.                   |                  | Texture/Structu | re/etc               |  |
| not sampled                    |  |                     | ····                 |                               |                  |                 |                      |  |
|                                |  |                     |                      |                               |                  |                 |                      |  |
| Hydric soil indicators:        |  |                     |                      |                               |                  |                 |                      |  |
| Histosol                       |  | Re                  | educing Conditions   | Х                             |                  | Organic streak  | ing (in sandy soils) |  |
| Hist. Epipedon                 | _                                      | Redox.              | Features (w/in 10")  |                               | -                | Organic p       | an (in sandy soils)  |  |
| Sulfidic Odor                  | -<br>C                                 | oncretions/Nodul    | es (w/in 3"; >2mm)   |                               | -                | C               | n Hydric Soils Lis   | t                                      |
| Gley/low chroma                | High organ                             | ic content in surfa | ace (in sandy soils) |                               |                  |                 | Other                | ponding                                |
| Remarks: reducing cond         | ditions assumed                        | based on high       | water table          | ***************************** |                  |                 |                      |  |
| Hydrology:                     |  |                     |                      | •                             |                  |                 |                      |  |
| Recorded Data Available?       | Yes                                    | ·                   | Aerial photos        | x                             | Strm. gauge      |                 | Other:               |  |
|                                |  | Primony Hudro       | logy Indicators      |                               |                  | condary Hydrol  |                      |  |
|                                |  |                     |                      |                               |                  |                 |                      |  |
| Depth of inundation:           | up to 12" in are                       |                     | Inundated            |                               | _ Oxidize        | d Root Channe   |                      |  |
| Depth to saturation:           | surface                                | Saturated           | d in upper 12"       | <u>X</u>                      |                  |                 | tained leaves        |  |
| Depth to free water:           | surface                                |                     | Water marks          |                               |                  | Local So        | I Survey Data        |  |
|                                |  |                     | Drift lines          |                               |                  | FAC             | C-Neutral Test       |  |
|                                |  | Sedir               | ment deposits        |                               | _                |                 | Other:               |  |
|                                |  |                     | nage patterns        | x                             | _                |                 |                      |  |
| Remarks:                       |  |                     |                      |                               |                  |                 |                      |  |
| Wetland Determinatio           | n:                                     |                     |                      | -                             |                  |                 |                      |  |
| le the hydromhytic wast-ti     | on aritarian                           | 42                  | VES                  |                               |                  |                 |                      |  |
| Is the hydrophytic vegetation  |  | nr                  | YES                  |                               |                  |                 |                      |  |
| Is the hydric soil criterion r |  |                     | YES                  |                               |                  |                 |                      |  |
| Is the specific hydrology ci   | riterion met?                          |                     | YES                  |                               |                  |                 |                      |  |
| Is this sampling point with    | in a wetland?                          |                     | YES                  |                               |                  |                 |                      |  |
|                                | wnstream of ag<br>f collected by dr    |                     | phically well def    | ined; veg chai                | nge is distinct; | Water source is | 3                    |  |
| Sullace 10101                  | i conected by di                       | an ac in lields     | ·.                   |                               |                  |                 |                      | ·                                      |

# Wetland Determination Data Form

| Damascus Natura   | l Features       | s Inventor                            | v   |                                       | WETLAND:                              | SU-A-02           |   |              |
|---|------------------|---------------------------------------|---|---------------------------------------|---------------------------------------|-------------------|---|--------------|
| Location:   |                  | , N of Sunshine                       | •   |                                       | Map No:                               | B6                |   |              |
| Cowardin Class:   | PFO, PEM         | , it of ouristance                    | valley I.u.                               | -                                     | Plot No:                              | DP 1              |   |              |
| HGM Class:  | SV/RFT           |                                       |   | •                                     | WET/UPL:                              | WET               |   |              |
| Field Investigator(s):                                      | ACS/MB           |                                       |   | -                                     | Date:                                 | 3/6/2007          |   |              |
| Recent Weather:   |                  | past 14 davs;                         | 39% above aver                            | ade                                   |                                       |                   |   |              |
| Do normal conditions exist                                  |                  | · · · · · · · · · · · · · · · · · · · | Yes                                       |                                       |                                       |                   |   |              |
| Is the site significantly dist                              |                  |                                       | No  |                                       |                                       |                   |   |              |
| Is the area a potential prob                                |                  |                                       | No  |                                       |                                       |                   |   |              |
|   |                  |                                       |   |                                       |                                       |                   |   |              |
| Vegetation:   | Dominant Pla     | int Species                           |   |                                       |                                       |                   |   |              |
| Herb Stratum<br>Total cover: 100%                           | Ind. status      | % Cover                               | % rel. cover                              | Tree Stratun<br>Total cover:          | n<br>0%                               | Ind. status       | % Cover                                   | % rel. cover |
| Deschampsia cespitosa                                       | FACW             | *25%                                  | 25.0%                                     |                                       |                                       |                   |   | <u></u>      |
| Agrostis alba   | FAC              | 60%                                   | * 60.0%                                   | <b></b>                               |                                       |                   |   |              |
| Juncus effusus  | FACW             | 15%                                   | 15.0%                                     | • • • • • • • • • • • • • • • • • • • |                                       |                   |   |              |
|   |                  |                                       |   | Sapling/ Shr<br>Total cover:          | ub Stratum<br>0%                      | Ind. status       | % Cover                                   | % rel. cover |
|   |                  |                                       |   |                                       |                                       | ·····             |   |              |
|   |                  |                                       |   |                                       |                                       |                   |   |              |
|   | and the state OD | EACIAL and                            | / = = = = = = = = = = = = = = = = = =     |                                       |                                       | of                | 2   | 400%         |
| Percent of dominant specier Remarks: Ege of Juef d          |                  | c, FAGW, and                          | INT FAC .                                 |                                       | 2                                     |                   | 2   | =100%        |
| Soils:  |                  |                                       |   |                                       |                                       |                   |   |              |
| Map Unit Name:  | Delena silt loa  | ım. 3-12%                             |   | Drainage Cla                          | ass:                                  | poorly drained    |   |              |
| Taxonomy:   | Humic Fragia     |                                       |   | Hydric soil?                          |                                       | Hydric inclus     | ons?                                      | Yes          |
| Depth Horizon   | Matrix Color     |                                       | Redox Conc.                               | Redox Desc.                           |                                       | Texture/Structu   | re/etc                                    |              |
| 0-12"   | 7.5 YR 3/2       | 7.5 YR 4/4 in m                       | at Com, med to coa                        | arse, distinct                        |                                       | sub ab, silt loam |   |              |
|   |                  |                                       | redox increased                           | size, frequency v                     | with depth                            |                   |   |              |
| 12-16"  | 7.5 YR 5/1       | 7.5 YR 4/6                            | many, coarse, pr                          | om                                    |                                       | silty clay loam   |   |              |
| Hydric soil indicators:                                     |                  | _                                     |   |                                       |                                       | 0                 |   |              |
| Histosol<br>Hist. Epipedon                                  | -                |                                       | educing Conditions<br>["Features (w/in 10 |                                       |                                       | -                 | ng (in sandy soils)                       |              |
| Sulfidic Odor   | -                |                                       | les (w/in 3"; >2mm)                       |                                       |                                       |                   | an (in sandy soils)<br>n Hydric Soils Lis |              |
| Gley/low chroma X   |                  |                                       | face (in sandy soils)                     |                                       |                                       |                   | Othe                                      |              |
| Remarks: Used soil pro                                      | •                | ndowner reques                        |   |                                       |                                       |                   |   |              |
| Hydrology:  |                  |                                       |   |                                       |                                       |                   |   |              |
| Recorded Data Available?                                    | Yes              |                                       | Aerial photos                             | X                                     | _Strm. gauge                          |                   |   | LIDAR        |
| Donth of inumdations  | 11               | Primary Hydro                         | ology Indicators                          |                                       |                                       | econdary Hydrol   |   |              |
| Depth of inundation:  | 1", patchy       | 0-4                                   | Inundated                                 | <u></u>                               | - Oxidize                             | d Root Channe     |   |              |
| Depth to saturation:  | surface<br>1"    | Saturate                              | d in upper 12"                            | <u>X</u>                              | -                                     |                   | tained leaves                             |              |
| Depth to free water:  |                  |                                       | Water marks<br>Drift lines                | *****                                 | -                                     |                   | -Neutral Test                             |              |
|   |                  | Sadi                                  | ment deposits                             |                                       | -                                     | FAV               | Other:                                    |              |
|   |                  |                                       | inage patterns                            |                                       | -                                     |                   | Other.                                    |              |
| Remarks: Water betwee                                       | en hummocks.     |                                       | flow, mostly sub                          | surface from a                        | above.                                |                   |   |              |
| Wetland Determination                                       |                  |                                       | ······································    |                                       |                                       |                   |   |              |
|   |                  |                                       | VES                                       |                                       | · · · · · · · · · · · · · · · · · · · |                   |   |              |
| Is the hydrophytic vegetati<br>Is the hydric soil criterion |                  | GIL                                   | YES<br>YES                                |                                       |                                       |                   |   |              |
|   |                  |                                       | YES                                       |                                       |                                       |                   |   |              |
| Is the specific hydrology c<br>Is this sampling point with  |                  |                                       | YES                                       |                                       |                                       |                   |   |              |
|   | a weballu f      |                                       |   |                                       |                                       |                   |   |              |
| Comments:   |                  |                                       |   |                                       |                                       |                   |   |              |

| <b>Damascus Natura</b>                                       | l Features                               | Invento               | rv                    |                | WETLAND:         | SU-A-02           |                     |              |
|--|--|-----------------------|-----------------------|----------------|------------------|-------------------|---------------------|--------------|
| Location:  | East of 242nd,                           |                       | •                     |                | Map No:          | B6                |                     |              |
|  | Last 01 242110,                          | N OF OURSHINE         | e valley Itu.         | -              | •                | DP 2              |                     |              |
| Cowardin Class:  |  |                       |                       | -              | Plot No:         |                   |                     |              |
| HGM Class:   |  |                       |                       | -              | WET/UPL:         | UPL               |                     |              |
| Field Investigator(s):                                       | ACS/MB                                   |                       |                       | -              | Date:            | 3/6/2007          |                     |              |
| Recent Weather:  |  | past 14 days;         | 39% above avera       | age            |                  |                   |                     |              |
| Do normal conditions exis                                    | t on the site?                           |                       | Yes                   |                |                  |                   |                     |              |
| Is the site significantly dis                                | turbed?                                  |                       | No                    |                |                  |                   |                     |              |
| Is the area a potential prol                                 | blem area?                               |                       | No                    |                |                  |                   |                     |              |
|  |  |                       |                       |                | 00-1 ·           |                   |                     |              |
| Vegetation:  | Dominant Pla                             | nt Species            |                       |                |                  |                   |                     |              |
| Herb Stratum   | Ind. status                              | % Cover               | % rel. cover          | Tree Stratun   | n                | Ind. status       | % Cover             | % rel. cover |
| Total cover: 100%  | ,<br>0                                   |                       |                       | Total cover:   | 0%               | D                 |                     |              |
| Deschampsia cespitosa  | FACW                                     | 20%                   | 20.0%                 |                |                  |                   |                     |              |
| Agrostis alba  | FAC                                      | 60%                   | * 60.0%               |                |                  |                   |                     |              |
| Poa species  | ~  | 15%                   | 15.0%                 |                |                  |                   |                     |              |
| Cirsium arvense  | FACU+                                    | 5%                    | 5.0%                  |                |                  |                   |                     |              |
|  | TACOP                                    | <u></u>               |                       |                |                  |                   |                     |              |
|  |  | ·                     | · ·····               | Sanling/ Shi   | ub Stratum       | Ind. status       | % Cover             | % rel. cover |
|  | <u> </u>                                 | •••••                 |                       | Sapling/ Shr   | ub Stratum<br>0% |                   | % Cover             | % rei. cover |
|  |  |                       |                       | Total cover:   | 0%               | 0                 |                     |              |
|  |  |                       |                       |                |                  |                   |                     |              |
|  |  |                       | <u> </u>              |                |                  |                   |                     |              |
|  |  |                       |                       |                |                  |                   |                     |              |
|  |  |                       |                       |                |                  |                   |                     |              |
|  |  |                       |                       |                |                  |                   |                     |              |
| Percent of dominant spec                                     | ies that are OBI                         | L, FACW, and          | /or FAC :             |                | 2                | of                | 2                   | = 100%       |
|  | ove area domina                          |                       |                       |                |                  | -                 |                     |              |
|  |  |                       |                       |                |                  |                   |                     |              |
| Soils:   |  |                       |                       |                |                  |                   |                     |              |
|  |  | _                     |                       |                |                  |                   |                     |              |
| Bitan II. A Name   | Dalara alltian                           | 2 400/                |                       | Duralina na Ol |                  | ام و مار با مار م |                     |              |
| Map Unit Name:   | Delena silt loai                         |                       |                       | Drainage Cla   |                  | poorly drained    |                     |              |
| Taxonomy:  | Humic Fragiaq                            | uepts                 |                       | Hydric soil?   | Yes              | Hydric inclus     |                     | Yes          |
| Depth Horizon  | Matrix Color                             |                       | Redox Conc.           | Redox Desc.    |                  | Texture/Structu   | re/etc              |              |
| 0-9"   | 7.5 YR 3/2                               |                       |                       |                |                  | silt loam         |                     |              |
| 9-14"  | 7.5 YR 4/2                               |                       | 2.5 YR 3/6            | few, med, prom | n, pores         | silt loam         | ······              |              |
|  |  |                       |                       |                |                  |                   |                     |              |
| Hydric soil indicators:                                      |  |                       |                       |                |                  |                   |                     |              |
| Histosol   |  | F                     | Reducing Conditions   | 5              |                  | Organic streak    | ing (in sandy soils | )            |
| Hist. Epipedon   |  | Redox.                | . Features (w/in 10") | X              |                  | Organic p         | an (in sandy soils  | )            |
| Sulfidic Odor  | c  | Concretions/Nodu      | ules (w/in 3"; >2mm)  | )              |                  | C                 | In Hydric Soils Lis |              |
| Gley/low chroma  | High organ                               | nic content in sur    | face (in sandy soils) | )              | _                |                   | Othe                | r X          |
| Remarks: X - Used soi  | probe - depths;                          | Redox in top          | 10"                   |                | _                |                   |                     |              |
|  |  |                       |                       |                |                  |                   |                     |              |
| Hydrology:   |  |                       |                       |                |                  |                   |                     |              |
|  |  |                       |                       |                |                  |                   |                     |              |
| Recorded Data Available?                                     | Yes                                      |                       | Aerial photos         | х              | Strm. gauge      |                   | Other:              |              |
|  |  | Primary Hydr          | ology Indicators      | ······         |                  | econdary Hydro    |                     |              |
| Depth of inundation:   |  | <u>i innary riyur</u> |                       |                |                  | d Root Channe     |                     |              |
| •  | NONE                                     | 0                     | Inundated             |                | - Oxidize        |                   |                     | ······       |
| Depth to saturation:   | >16"                                     | Saturate              | ed in upper 12"       |                | -                |                   | stained leaves      |              |
| Depth to free water:   | >16"                                     |                       | Water marks           |                | -                |                   | il Survey Data      |              |
|  |  |                       | Drift lines           |                | _                | FAG               | C-Neutral Test      |              |
|  |  | Sed                   | iment deposits        |                | _                |                   | Other:              |              |
|  |  | Dra                   | inage patterns        |                |                  |                   |                     |              |
| Remarks: No saturation                                       | n in pit.                                |                       |                       |                |                  |                   |                     |              |
| Wetland Determination  | on:                                      |                       |                       |                |                  |                   |                     |              |
|  |  |                       |                       |                |                  |                   |                     |              |
| In the hydrophytic version                                   |  |                       |                       |                |                  |                   |                     |              |
| is the hydrophytic vegetat                                   | ion criterion me                         | et?                   | YES                   |                |                  |                   |                     |              |
| Is the hydric soil criterion                                 |  | et?                   | YES<br>YES            |                |                  |                   |                     |              |
|  | met?                                     | et?                   |                       |                |                  |                   |                     |              |
| Is the hydric soil criterion                                 | met?<br>criterion met?                   | et?                   | YES                   |                |                  |                   |                     |              |
| Is the hydric soil criterion<br>Is the specific hydrology of | met?<br>criterion met?<br>nin a wetland? | et?                   | YES<br>NO             |                |                  |                   |                     |              |

| Damascus Natura                                  | al Features  | Invento                               | ry                    | v   | VETLAND:  | : SU-A-02            |                   |              |  |
|--|--|---------------------------------------|-----------------------|---|-----------|----------------------|-------------------|--------------|--|
| Location:  | East of 242nd,   | N of Sunshin                          | e Valley Rd.          | N   | lap No:   | B6                   |                   |              |  |
| Cowardin Class:                                  | PFO, PEM   |                                       |                       | - F   | lot No:   | DP 3                 |                   |              |  |
| HGM Class:                                       | SV/RFT   |                                       |                       | - v   | VET/UPL:  | WET                  |                   |              |  |
| Field Investigator(s):                           | ACS/MB   |                                       |                       | _   | Date:     | 3/6/2007             |                   |              |  |
| Recent Weather:                                  | and the second | nast 14 days                          | 39% above ave         |   |           |                      |                   |              |  |
| Do normal conditions exi                         |  | <u>puor : ( uu)o</u> ,                | Yes                   |   |           |                      |                   |              |  |
| Is the site significantly dis                    |  |                                       | No                    |   |           |                      |                   |              |  |
| is the area a potential pro                      |  |                                       | No                    |   |           |                      |                   |              |  |
| is the area a potential pro                      |  |                                       |                       | •   |           |                      |                   |              |  |
| Vegetation:                                      | Dominant Pla   | nt Species                            |                       |   |           |                      |                   |              |  |
| Herb Stratum                                     | Ind. status  | % Cover                               | % rel. cover          | Tree Stratum                                    |           | Ind. status          | % Cover           | % rel. cover |  |
| Total cover: 60°                                 | %  |                                       |                       | Total cover:                                    | 20%       | 0                    |                   |              |  |
| Phalaris arundinacea                             | FACW   | 10%                                   | 16.7%                 | Alnus rubra                                     |           | FAC                  | 10%               | 50.0%        |  |
| Scirpus microcarpus                              | OBL  | 10%                                   | 16.7%                 | Fraxinus latifoli                               | a         | FACW                 | 10%               | 50.0%        |  |
| Epilobium watsonii [ciliatum                     | J FACW-  | 5%                                    | 8.3%                  |   |           |                      |                   |              |  |
| Juncus effusus                                   | FACW   | 5%                                    | 8.3%                  |   |           |                      |                   |              |  |
| Ranunculus repens                                | FACW   | T                                     |                       |   |           |                      |                   |              |  |
| Unidentified grass (Poa?)                        | FAC  | 30%                                   | 50.0%                 | Sapling/ Shrul                                  | b Stratum | Ind. status          | % Cover           | % rel. cover |  |
| • • • • • • • • • • • • • • • • •                |  |                                       | -                     | Total cover:                                    | 5%        | 6                    |                   |              |  |
|  |  | (                                     |                       | Lonicera involu                                 | crata     | FAC+                 | т                 |              |  |
|  |  | · · · · · · · · · · · · · · · · · · · |                       | Rubus discolor                                  |           |                      | 5%                | 100.0%       |  |
|  |  |                                       |                       |   |           |                      |                   |              |  |
| · · · · · · · · · · · · · · · · · · ·            |  | <u> </u>                              |                       | • 1 <u>000000000000000000000000000000000000</u> |           |                      |                   |              |  |
| Percent of dominant spec<br>Remarks: Northern ed | cies that are OB   |                                       | l/or FAC :            |   | 3         | of                   | 4                 | = 75%        |  |
| Soils:   | ge of tha latione  |                                       |                       |   |           |                      |                   |              |  |
|  |  |                                       |                       |   |           |                      |                   |              |  |
| Map Unit Name:                                   | Delena silt loa  | m, 3-12%                              |                       | _ Drainage Clas                                 |           | poorly drained       |                   |              |  |
| Taxonomy:  | Humic Fragiad  | uepts                                 |                       | Hydric soil?                                    | Yes       | Hydric inclusi       | ions?             | Yes          |  |
| Depth Horizon                                    | Matrix Color   |                                       | Redox Conc.           | Redox Desc.                                     |           | Texture/Structu      | re/etc            |              |  |
| 0-3"   | 10 YR 3/3  |                                       |                       |   |           | silt loam, recent of | deposition        |              |  |
| 3-16"  | 7.5 YR 3/2   | 5 YR 3/6                              | many, med, pro        | m   |           | silt loam, higher    | clay content, har | der          |  |
|  |  |                                       | pore linings          |   |           |                      |                   |              |  |
| Hydric soil indicators:                          |  |                                       |                       |   |           |                      |                   |              |  |
| Histosol   |  | I                                     | Reducing Condition    | IS  |           | Organic streaki      | ng (in sandy soil | s)           |  |
| Hist. Epipedon                                   | _  |                                       | . Features (w/in 10   | · · · · · · · · · · · · · · · · · · ·           |           | • ,                  | an (in sandy soil |              |  |
| Sulfidic Odor                                    |  |                                       | ules (w/in 3"; >2mm   |   |           | C                    | n Hydric Soils L  |              |  |
| Gley/low chroma X                                |  |                                       | rface (in sandy soils |   |           |                      | Oth               | er           |  |
| Remarks: Brighter sur                            | face soil laver is   | recent deposi                         | tion: Strona redo     | x below 3"                                      |           |                      |                   |              |  |

Hydrology:

| Recorded Data Available?  | Yes  | Aerial photos X  | Strm. gauge                       | Other:             |
|---|--|--|-----------------------------------|--------------------|
|   |  | Primary Hydrology Indicators   | Secondary Hyd                     | Irology Indicators |
| Depth of inundation:  | NONE   | Inundated  | Oxidized Root Char                | inels (upper 12")  |
| Depth to saturation:  | 9"   | Saturated in upper 12" X   | Wate                              | er-stained leaves  |
| Depth to free water:  | 12"  | Water marks  | Local                             | Soil Survey Data   |
|   |  | Drift lines  |                                   | AC-Neutral Test    |
|   |  | Sediment deposits  |                                   | Other:             |
|   |  | -  |                                   |                    |
|   |  | Drainage patterns<br>overbank flow. Major channel resculpti                  | ng going on in this whole area. E | eaver activity.    |
| water source  | : Sunshine Cree  | overbank flow. Major channel resculpti                                       | ng going on in this whole area. E | leaver activity.   |
| water source<br>Wetland Determination   | e: Sunshine Cree<br>on:  | overbank flow. Major channel resculpti<br>k.                                 | ng going on in this whole area. E | leaver activity.   |
| water source<br>Wetland Determination<br>Is the hydrophytic vegetat                                 | e: Sunshine Cree<br>on:<br>ion criterion me                          | overbank flow. Major channel resculpti<br>k.                                 | ng going on in this whole area. E | eaver activity.    |
| water source<br>Wetland Determination<br>Is the hydrophytic vegetat<br>Is the hydric soil criterion | e: Sunshine Cree<br>on:<br>ion criterion me<br>met?                  | overbank flow. Major channel resculpti<br>k.<br>et? <u>YES</u>               | ng going on in this whole area. E | eaver activity.    |
|   | : Sunshine Cree<br>on:<br>ion criterion me<br>met?<br>criterion met? | overbank flow. Major channel resculpti<br>k.<br>et? <u>YES</u><br><u>YES</u> | ng going on in this whole area. E | eaver activity.    |

## Wetland Determination Data Form

|  | · · · · · · · · · · · · · · · · · · · |                   |   | ·                            | ·····              |                         |                             |              |
|--|---------------------------------------|-------------------|---|------------------------------|--------------------|-------------------------|-----------------------------|--------------|
| Damascus Natura                                    | al Features                           | Invento           | rv  |                              | WETLAND:           | SU-A-02                 |                             |              |
| Location:  | East of 242nd,                        |                   | •   |                              | Map No:            | B6                      |                             |              |
| Cowardin Class:                                    | 24210                                 | is of Guilstille  | s vancy rtu.                                  | -                            | Plot No:           | DP 4                    |                             |              |
| HGM Class:   | ·                                     |                   |   | -                            | WET/UPL:           | UPL                     |                             |              |
|  | ACS/MB                                |                   |   | -                            |                    | 3/6/2007                |                             |              |
| Field Investigator(s):                             |                                       | noot 14 days      | 200/  | -                            | Date:              | 3/0/2007                |                             |              |
| Recent Weather:                                    |                                       | past 14 days;     | 39% above aver                                | age                          |                    |                         |                             |              |
| Do normal conditions exis                          |                                       |                   | Yes   |                              |                    |                         |                             |              |
| Is the site significantly dis                      |                                       |                   | No  |                              |                    |                         |                             |              |
| Is the area a potential prol                       | blem area?                            |                   | <u>         No                           </u> |                              |                    |                         |                             |              |
| Vegetation:  | Dominant Pla                          | nt Species        |   |                              |                    |                         |                             |              |
| Herb Stratum<br>Total cover: 25%                   | Ind. status                           | % Cover           | % rel. cover                                  | Tree Stratun<br>Total cover: | n<br>60%           | Ind. status             | % Cover                     | % rel. cover |
| Scirpus microcarpus                                | OBL                                   | Т                 |   | Pseudotsuga                  | n menziesii        | FACU                    | 40%                         | 66.7%        |
| Unidentified grass                                 | FAC?                                  | 20%               | * 80.0%                                       | Alnus rubra                  |                    | FAC                     | 20%                         | 33.3%        |
| Ranunculus repens                                  | FACW                                  | 5%                | 20.0%   |                              |                    | 1770                    |                             |              |
| Trillium (sessile)                                 | 77000                                 | T                 | 20.070  |                              |                    |                         |                             |              |
|  |                                       |                   |   |                              |                    |                         |                             |              |
|  |                                       |                   |   | Sapling/ Shi<br>Total cover: | rub Stratum<br>65% | Ind. status             | % Cover                     | % rel. cover |
|  |                                       |                   |   |                              |                    | -                       | <b>F</b> 0/                 |              |
|  |                                       |                   | -   | Sambucus ra                  |                    | FACU                    | 5%                          | 7.7%         |
|  |                                       |                   |   | Prunus emar                  | <u> </u>           | FACU<br>FACU            | 5%                          | 7.7%         |
|  |                                       | ······            |   | Symphoricar                  |                    |                         | 5%                          | 7.7%         |
|  |                                       |                   |   | Rubus disco                  | lor [R. armenia    | ac FACU                 | 50%                         | 76.9%        |
|  |                                       |                   |   | <u></u>                      | -                  |                         |                             |              |
| Percent of dominant spec<br>Remarks: Edge of fir/R |                                       |                   | ests area may be                              | aettina wette                | r Most large d     | of<br>lead fir are near | 4                           | = <u>50%</u> |
|  | grass dropped a                       |                   |   | getting wetter               | i. Most large o    | leau ni are neai        | new channel h               | largins      |
|  | glass ulopped a                       | s status uncie    | ai  |                              |                    |                         |                             |              |
| Soils:   |                                       |                   |   |                              |                    |                         |                             |              |
| Man Hall Manage                                    | Dalama silkitaa                       | 0.400/            |   | During Ol                    |                    |                         | -                           |              |
| Map Unit Name:                                     | Delena silt loa                       |                   |   | Drainage Cl                  |                    | poorly drained          |                             |              |
| Taxonomy:  | Humic Fragiaq                         | uepts             |   | Hydric soil?                 | Yes                | Hydric inclus           |                             | Yes          |
| Depth Horizon                                      | Matrix Color                          |                   | Redox Conc.                                   | Redox Desc.                  |                    | Texture/Structu         | re/etc                      |              |
| 0-9"   | 7.5 YR 3/2                            |                   |   |                              |                    | silt loam               |                             |              |
| 9-18"  | 7.5 YR 4/3                            |                   |   |                              |                    | silt loam               |                             |              |
| 18-22"   | 10 YR 4/3                             |                   |   |                              |                    | silty clay loam         |                             |              |
| Hydric soil indicators:                            |                                       |                   |   |                              |                    |                         |                             |              |
| Histosol   | _                                     |                   | Reducing Conditions                           |                              | _                  | •                       | ing (in sandy soils         | ·            |
| Hist. Epipedon                                     | -                                     |                   | Features (w/in 10")                           |                              | _                  |                         | an (in sandy soils          | ·            |
| Sulfidic Odor                                      |                                       |                   | ıles (w/in 3"; >2mm)<br>face (in condu ceile) |                              | _                  | Ĺ                       | In Hydric Soils Lis<br>Othe |              |
| Gley/low chroma                                    | - High organ                          | ne content in sur | face (in sandy soils)                         |                              |                    |                         | Othe                        |              |
| Remarks:   |                                       |                   |   |                              |                    |                         |                             |              |
| Hydrology:   |                                       |                   |   |                              |                    |                         |                             |              |
|  | · · · · · · · · · · · · · · · · · · · |                   |   |                              | ~                  |                         |                             |              |
| Recorded Data Available?                           | Yes                                   |                   | Aerial photos                                 | <u>×</u>                     | _Strm. gauge       |                         | Other:                      |              |
|  |                                       | Primary Hydro     | ology Indicators                              |                              |                    | econdary Hydrol         |                             |              |
| Depth of inundation:                               |                                       |                   | Inundated                                     |                              | _ Oxidize          | d Root Channe           |                             |              |
| Depth to saturation:                               |                                       | Saturate          | ed in upper 12"                               |                              |                    |                         | stained leaves              |              |
| Depth to free water:                               |                                       |                   | Water marks                                   |                              | _                  | Local So                | il Survey Data              |              |
|  |                                       |                   | Drift lines                                   |                              |                    | FAG                     | C-Neutral Test              |              |
|  |                                       | Sed               | iment deposits                                |                              |                    |                         | Other:                      |              |
|  |                                       | Dra               | inage patterns                                |                              |                    |                         |                             |              |
| Remarks: No hydrolog                               | y indicators, soil                    | near saturatio    | n at 22"                                      |                              | _                  |                         |                             |              |
| Wetland Determination                              | on:                                   |                   |   |                              |                    | -                       |                             |              |
| le the hydrophytic vocated                         | tion oritorian                        |                   | NO  |                              |                    |                         |                             |              |
| Is the hydrophytic vegetat                         |                                       | 917               | NO  |                              |                    |                         |                             |              |
| Is the hydric soil criterion                       |                                       |                   | NO  |                              |                    |                         |                             |              |
| Is the specific hydrology of                       |                                       |                   | NO  |                              |                    |                         |                             |              |
| Is this sampling point with                        |                                       |                   | NO  |                              |                    |                         |                             |              |
| Comments: Fir grove is a                           | on higher ground                      | in stream me      | anders  |                              |                    |                         |                             |              |

| Damascus Natura<br>Location:<br>Cowardin Class: | I Features<br>South end of Hid |                   | y  |  | WETLAND:<br>Map No:<br>Plot No: | SU-A-03<br>A6<br>DP 1 |                              |              |
|---|--------------------------------|-------------------|--|--|---------------------------------|-----------------------|------------------------------|--------------|
| HGM Class:                                      |                                |                   |  |  | WET/UPL:                        | UPL                   |                              |              |
| Field Investigator(s):                          | ACS/TB/RR/MB                   |                   |  |  | Date:                           | 2/22/2007             |                              |              |
| Recent Weather:                                 | 2.52" of rain in p             | ast 14 days; 1    | 100% of average                            |  |                                 |                       |                              |              |
| Do normal conditions exist                      |                                |                   | Yes  |  |                                 |                       |                              |              |
| Is the site significantly dist                  | urbed?                         |                   | No   |  |                                 |                       |                              |              |
| Is the area a potential prob                    |                                |                   | No   |  |                                 |                       |                              |              |
| Vegetation:                                     | Dominant Plan                  | Species           |  |  |                                 |                       |                              |              |
|   |                                |                   |  |  |                                 |                       |                              |              |
| Herb Stratum<br>Total cover: 95%                |                                | % Cover           | % rel. cover                               | Tree Stratun<br>Total cover:           | 15%                             |                       | % Cover                      | % rel. cover |
| Unidentified grasses                            | FAC?                           | 95%               | 100.0%                                     | Pseudotsuga                            | i menziesii                     | FACU                  | 15%                          | 100.0%       |
| Lotus corniculatus                              | FAC                            |                   |  |  |                                 |                       |                              |              |
|   |                                |                   |  | Sapling/ Shr<br>Total cover:           | rub Stratum                     | Ind. status           | % Cover                      | % rel. cover |
|   |                                |                   |  |  |                                 |                       |                              | 100.0%       |
|   |                                |                   |  | Rubus lacinia                          |                                 | FACU                  | 5%                           | 100.0%       |
|   | ······                         |                   |  | •••••••••••••••••••••••••••••••••••••• |                                 |                       |                              |              |
| Percent of dominant specie<br>Remarks:          | es that are OBL,               | FACW, and/        | or FAC :                                   |  | 1                               | of                    | 3                            | 33%          |
| Soils:  |                                |                   |  |  |                                 | •                     |                              |              |
| Map Unit Name:                                  | Powell silt loam,              | 0-8%              |  | Drainage Cl                            | ass:                            | somewhat poo          | rly drained                  |              |
| Taxonomy:                                       | Typic Fragiochre               |                   |  | Hydric soil?                           |                                 | Hydric inclusi        |                              | Yes          |
| Depth Horizon                                   | Matrix Color                   | ·                 | Redox Conc.                                | Redox Desc.                            |                                 | Texture/Structu       | re/etc                       |              |
| 0-13"   | 10 YR 3/2                      |                   |  |  |                                 | silt loam             |                              |              |
| 13-18"  | 7.5 YR 5/2                     |                   | 7.5 YR 4/4                                 | not abundant                           |                                 | subangular block      | y                            |              |
| Hydric soil indicators:<br>Histosol             |                                |                   | educing Conditions                         |  |                                 | · .                   | ng (in sandy soils)          |              |
| Hist. Epipedon<br>Sulfidic Odor                 | -                              |                   | Features (w/in 10")                        |  |                                 | - ,                   | an (in sandy soils)          |              |
| Gley/low chroma                                 |                                |                   | es (w/in 3"; >2mm)<br>ace (in sandy soils) |  |                                 | 0                     | n Hydric Soils List<br>Othei |              |
| Remarks:  |                                | , content in sund | ace (in sandy solis)                       |  |                                 |                       | Ould                         |              |
| Hydrology:                                      |                                |                   |  |  |                                 |                       |                              |              |
| Recorded Data Available?                        | Yes                            |                   | Aerial photos                              | <u>x</u>                               | _Strm. gauge                    |                       | Other:                       |              |
|   | E                              | rimary Hydro      | logy Indicators                            |  | <u>Se</u>                       | econdary Hydrol       | ogy Indicators               |              |
| Depth of inundation:                            | NONE                           |                   | Inundated                                  |  | Oxidize                         | d Root Channe         | ls (upper 12")               |              |
| Depth to saturation:                            | 13"                            | Saturate          | d in upper 12"                             |  | _                               | Water-s               | tained leaves                |              |
| Depth to free water:                            | 16" (coming up)                |                   | Water marks                                |  |                                 | Local Soi             | I Survey Data                |              |
|   |                                |                   | Drift lines                                |  | _                               | FAC                   | C-Neutral Test               |              |
|   |                                |                   | ment deposits                              |  |                                 |                       | Other:                       |              |
|   |                                | Drai              | nage patterns                              |  | _                               |                       |                              |              |
| Remarks:  |                                |                   |  |  |                                 |                       |                              |              |
| Wetland Determination                           | on:                            |                   |  |  |                                 |                       |                              |              |
| Is the hydrophytic vegetati                     | on criterion met               | ?                 | NO   |  |                                 |                       |                              |              |
| Is the hydric soil criterion                    |                                |                   | NO   |  |                                 |                       |                              |              |
| Is the specific hydrology c                     | riterion met?                  |                   | NO   |  |                                 |                       |                              |              |
| Is this sampling point with                     | in a wetland?                  |                   | NO   |  |                                 |                       |                              |              |
| Comments: Pasture - mo                          | wed or grazed. S               | ome fir plante    | d - away from ed                           | ge of stream                           | , they look wat                 | erstressed.           |                              |              |
|   | ×                              | ······            |  |  |                                 |                       | ··· ··· ·· ·· ·· ··          |              |

### Wetland Determination Data Form

| Damascus Natura<br>Location:<br>Cowardin Class:   | I Features<br>South end of H  |  | у   | -  | WETLAND:<br>Map No:<br>Plot No: | SU-A-03<br>A6<br>DP 2                             |  |              |
|---|---|--|---|--|---------------------------------|---|--|--------------|
| HGM Class:<br>Field Investigator(s):  | ACS/TB/RR/M   | В  |   | -  | WET/UPL:<br>Date:               | UPL<br>2/22/2007                                  |  |              |
| Recent Weather:<br>Do normal conditions exis<br>Is the site significantly dist<br>Is the area a potential prob      | turbed?   |  | Yes<br>No<br>No   | -  |                                 |   |  |              |
| Vegetation:   | Dominant Pla  | nt Species                                       |   |  |                                 |   |  |              |
| Herb Stratum<br>Total cover: 95%  |   | % Cover  | % rel. cover  | Tree Stratum<br>Total cover:                 | 0%                              | ind. status                                       | % Cover  | % rel. cover |
| Ranunculus repens<br>Rumex acetosella<br>Carex species  | FACW<br>FACU+<br>-<br>FACW  | <u>5%</u><br><u>T</u><br><u>T</u><br>T           | 5.3%  |  | ·····                           |   |  |              |
| Juncus effusus<br>Agrostis stolonifera<br>Festuca arundinacea<br>Unknown grass                                      | FAC<br>FAC  | 70%<br>T<br>10%                                  | 73.7%   | Sapling/ Shru<br>Total cover:                | b Stratum<br>40%                | Ind. status                                       | % Cover  | % rel. cover |
| Lotus corniculatus  | FAC   | 10%  | 10.5%   | Rubus discolo<br>Rubus laciniat              | r [R. armenia                   |   | 40%<br>T   | 100.0%       |
| Percent of dominant speci<br>Remarks:   | es that are OB  | L, FACW, and                                     | /or FAC :   |  | 1                               | of  | 2  | = 50%        |
| Soils:  |   |  |   |  |                                 | -   |  |              |
| Map Unit Name:<br>Taxonomy:<br>Depth Horizon  | Powell silt loar<br>Typic Fragioch<br>Matrix Color                              |  | Redox Conc.   | Drainage Clas<br>Hydric soil?<br>Redox Desc. | ss:<br>No                       | somewhat poo<br>Hydric inclusi<br>Texture/Structu | ons?   | Yes          |
| 0-14"<br>14-16"   | 10 YR 3/2<br>10 YR 3/2  |  | 10 YR 3/3   | few, medium, fai                             | nt                              | silt loam / friable<br>silt loam                  | loose  |              |
| Hydric soil indicators:<br>Histosol<br>Hist. Epipedon<br>Sulfidic Odor<br>Gley/low chroma<br>Remarks: Given lack of | High orga   | Redox.<br>Concretions/Nodu<br>nic content in sur | Reducing Conditions<br>Features (w/in 10",<br>iles (w/in 3"; >2mm,<br>face (in sandy soils,<br>stay saturated fo                    | )  | od during gra                   | Organic p<br>O                                    | ng (in sandy soils<br>an (in sandy soils<br>n Hydric Soils Lis<br>Othe | s)           |
| Hydrology:  |   |  |   |  |                                 |   |  |              |
| Recorded Data Available?<br>Depth of inundation:<br>Depth to saturation:<br>Depth to free water:                    | Yes<br><u>NONE</u><br>5"<br>10"   | Saturate   | Aerial photos<br>blogy Indicators<br>Inundated<br>ed in upper 12"<br>Water marks<br>Drift lines<br>iment deposits<br>inage patterns | x<br>  |                                 | Local Soi   |  |              |
| Remarks:  |   |  | ····  |  |                                 | <u>.</u>  |  |              |
|   | ion criterion m<br>met?<br>riterion met?<br>iin a wetland?<br>at 8" no redox. E | Boundary base                                    | NO<br>NO<br>YES<br>NO<br>d on microtopogr   |  |                                 | mponents in con<br>to sat/wt, redox f             |  | carex,       |

| Damascus Natura<br>Location:<br>Cowardin Class: | South end of Hi<br>PEM, PSS            | -                | 1                                       |  | WETLAND:<br>Map No:<br>Plot No: | SU-A-03<br>A6<br>DP 3                    | ······                                     |              |
|---|--|------------------|---|--|---------------------------------|--|--|--------------|
| HGM Class:<br>Field Investigator(s):            | SV<br>ACS/TB/RR/ME                     | 2                |   | ,  | WET/UPL:                        | WET<br>3/6/2007                          |  |              |
| Recent Weather:                                 | 3.22" of rain in I                     |                  | % above avera                           | ae   | Date:                           | 5/0/2007                                 |  |              |
| Do normal conditions exist                      |  | uot i i uujo; ot | Yes                                     | ,  |                                 |  |  |              |
| Is the site significantly dist                  | urbed?                                 |                  | No                                      |  |                                 |  |  |              |
| Is the area a potential prob                    | lem area?                              |                  | No                                      |  |                                 |  |  |              |
| Vegetation:                                     | Dominant Plar                          | It Species       |   |  |                                 |  |  |              |
| Herb Stratum<br>Total cover: 100%               | Ind. status                            | % Cover          | % rel. cover                            | Tree Stratum<br>Total cover:   | 0%                              | Ind. status                              | % Cover                                    | % rel. cover |
| Carex sp.                                       | FAC-OBL                                | 20%              | 20.0%                                   |  |                                 |  |  |              |
| Agrostis stolonifera                            | FAC                                    | 70% *            | 70.0%                                   |  |                                 |  |  |              |
| Lotus corniculatus                              | FAC                                    | 10%              | 10.0%                                   |  |                                 |  |  |              |
|   |  |                  |   | Sapling/ Shr<br>Total cover:   | ub Stratum<br>0%                | Ind. status                              | % Cover                                    | % rel. cover |
|   | ······································ |                  |   |  | <br>                            |  |  |              |
| Percent of dominant specie<br>Remarks:          | es that are OBL                        | , FACW, and/o    | or FAC :                                |  | 2                               | of                                       | 2=   | 100%         |
| Soils:  |  | ,<br>            |   |  |                                 |  |  |              |
| Map Unit Name:                                  | Powell silt loam                       | ı, 0-8%          |   | Drainage Cla   | iss:                            | somewhat poo                             | rly drained                                |              |
| Taxonomy:                                       | Typic Fragiochi                        |                  |   | Hydric soil?   | No                              | Hydric inclusi                           |  | Yes          |
| Depth Horizon                                   | Matrix Color                           |                  | Redox Conc.                             | Redox Desc.  |                                 | Texture/Structur                         | re/etc                                     |              |
| 0-5"  | 10 YR 3/2                              |                  |   |  |                                 | friable silt loam                        |  |              |
| >5"   | 10 YR 4/1                              |                  | 7.5 YR 4/4                              | many, medium,  | distinct                        | friable silt loam                        |  |              |
| Hydric soil indicators:                         |  |                  |   |  |                                 |  |  |              |
| Histosol  | -                                      |                  | ducing Conditions                       | Service and the service of the servi | -                               |  | ng (in sandy soils)                        |              |
| Hist. Epipedon<br>Sulfidic Odor                 | <b>.</b>                               |                  | eatures (w/in 10")<br>s (w/in 3"; >2mm) |  | -                               |  | an (in sandy soils)<br>n Hydric Soils List | ·            |
| Gley/low chroma X                               |  |                  | ce (in sandy soils)                     |  | -                               | 0  | Other                                      |              |
| Remarks:  |  |                  |   | · · · · · · · · · · · · · · · · · · ·  |                                 |  |  |              |
| Hydrology:                                      |  |                  |   |  |                                 |  |  |              |
| Recorded Data Available?                        | Yes                                    |                  | •                                       | X  | Strm. gauge                     | <del>,</del> ,                           | Other:                                     |              |
| Donth of inundations                            |  | Primary Hydrol   |   |  |                                 | <u>econdary Hydrol</u><br>d Boot Channel |  |              |
| Depth of inundation:                            | NONE                                   | Seturates        | Inundated                               | <u></u>  | - Uxidized                      | d Root Channel                           | tained leaves                              |              |
| Depth to saturation:<br>Depth to free water:    | to surface                             | Saturated        | l in upper 12"<br>Water marks           | <u>X</u>   | -                               |  | I Survey Data                              |              |
| Depth to hee water.                             | 0                                      |                  | Drift lines                             |  | -                               |  | -Neutral Test                              |              |
|   |  | Sedin            | nent deposits                           |  | -                               |  | Other:                                     |              |
|   |  |                  | nage patterns                           |  | -                               |  |  |              |
| Remarks: No ponding, e                          | evidence of prev                       |                  |   | water with ove   | rland flow                      |  |  |              |
| Wetland Determinatio                            | n:                                     |                  |   |  |                                 |  |  |              |
| Is the hydrophytic vegetation                   | on criterion me                        | t?               | YES                                     |  |                                 |  |  |              |
| Is the hydric soil criterion r                  | net?                                   |                  | YES                                     |  |                                 |  |  |              |
| Is the specific hydrology cr                    | riterion met?                          |                  | YES                                     |  |                                 |  |  |              |
| Is this sampling point with                     | in a wetland?                          |                  | YES                                     |  |                                 |  |  | ,            |
|   |  |                  |   |  | r, Alnus rubra,                 | Swoard and Bra                           | acken fern                                 |              |
| Mapped area                                     | contains approx                        | cimately 60% w   | etlands, 40% u                          | olands.  |                                 |  |  |              |



**Riparian Corridor Summary Sheet** 

Riparian Site: Badger Creek Riparian Corridor Area: 31 acres Adjacent Wetlands: BA-A-01 Adjacent Land Use: Farming & low density residential Riparian Code: R-BA-A Field Maps #: A7 Field Date(s): 3/5/07, 3/16/07 Investigators: EL, TB

## **General Description**

Badger Creek, tributary to Johnson Creek; red alder dominated riparian corridor. Riparian corridor constrained through low density residential areas, and fragmented by roads.

# **Riparian Characteristics**

| Gradient: $\square$ low <2% $\square$ mod 2-4% $\square$ m/s 4-8% $\square$ steep >8%<br>Side slopes: $\square$ <10% $\square$ 10-25% $\square$ 25-50% $\square$ >50%<br>Average woody vegetated width: $\square$ <25' $\square$ 25-50' $\square$ >50'<br>Channel shade: $\square$ <25% $\square$ 25-50% $\square$ 50-75% $\square$ 75-100%<br>Channel alteration: $\square$ <5% $\square$ 5-25% $\square$ >25% |
|---|
| Notes: numerous driveway crossings, excavated ponds   |

# Vegetation (\*dominant)

| Trees             | Shrubs                          | Herbs/Emergents  |
|-------------------|---------------------------------|------------------|
| Red alder*        | Himalayan blackberry            | Pasture grasses* |
| Black cottonwood  | Willow species (incl. Scoulers) | Turf grasses     |
| Oregon ash        |                                 | Sword fern       |
| Western red cedar |                                 | Soft rush        |
|                   |                                 | Reed canarygrass |
|                   | ·                               |                  |

### **Assessment Results**

| Riparian Function             | Rating  |          |        | Comments |
|-------------------------------|---------|----------|--------|----------|
| Water Quality                 | Low     | 🛛 Medium | 🗌 High |          |
| Water Storage/Flow Moderation | Low Low | 🗌 Medium | 🗌 High |          |
| Fish Habitat                  | Low     | 🛛 Medium | 🔲 High |          |
| Wildlife Habitat              | Low Low | Medium   | 🗌 High |          |
| Biodiversity                  | Low Low | Medium   | 🗌 High |          |

## **Restoration/Enhancement Comments:**

Potential enhancement measures include:

- streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat, species diversity
- removal of noxious species
- reduction of herbicide and pesticide use near streams

Enhancement of the forested riparian corridor would also improve habitat connectivity. Enhancement actions would require the cooperation of landowners.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-BA-A



| Function            | Low (1 pt)   |          | Medium (2 pts)                                       |          | High (3 pts)   |
|---------------------|--|----------|--|----------|--|
| Water Quality       | Riparian area dominated by sparse                  |          | Riparian area dominated by herbs or                  |          | Riparian area dominated by dense                           |
| Water Quality       | herbs or no vegetation                             | 2        | sparse woody vegetation                              |          | woody vegetation   |
| Score:              | Average width of natural                           |          | Average width of natural vegetation                  |          | Average width of natural                                   |
| 11                  | 1vegetation cover < 25'Impervious surfaces > 25%   | 2        | cover: 25' to 50'<br>Impervious surfaces: 10 - 25%   |          | vegetation cover > 50'<br>Impervious surfaces < 10%        |
|                     |  | . 2      | -  |          | · ·  |
| medium              | Average channel shade < 25%                        |          | Average channel shade 25-50%                         | 3        | Average channel shade > 50%                                |
|                     | Severe soil erosion potential within riparian area |          | Moderate soil erosion potential within riparian area | 3        | Slight soil erosion potential within<br>riparian area      |
| a. 1 1              |  | 4        |  | 6        |  |
| Sub-totals          |  | 4        |  | 0        |  |
| Water storage/ flow | No floodplains or wetlands in<br>riparian area     | 2        | Few, small floodplains or wetlands in riparian area  |          | Multiple or large floodplains or wetlands in riparian area |
| moderation          | Located in lower 1/3 of                            | <u> </u> | Located in middle 1/3 of                             |          | Located in upper 1/3 of                                    |
| Score:              | 1 subwatershed                                     |          | subwatershed   |          | subwatershed   |
|                     | <20% woody vegetation cover                        |          | 20-50% woody vegetation within                       |          | >50% woody vegetation within                               |
| 6                   | 1 within wetland or floodplain                     |          | wetland or floodplain                                |          | wetland or floodplain                                      |
|                     | High bank or channel alteration                    |          | Moderate bank or channel alteration                  |          | Low bank or channel alteration                             |
| low                 | 1 $(>25\%$ altered)                                |          | (5-25% altered)                                      |          | (<5% altered)  |
|                     | Low connectivity to upland                         |          | Moderate connectivity to upland                      |          | High connectivity to upland                                |
|                     | <sup>1</sup> habitats                              |          | habitats   |          | habitats   |
| Sub-totals          | 4  | 2        |  | 0        |  |
|                     | No fish identified                                 |          | Potential fish presence                              |          | Fish-bearing stream (ODFW,                                 |
| Fish Habitat        |  | 2        |  |          | ODF or other source)                                       |
| Score:              | $_0$ Average channel shade < 25%                   | 0        | Average channel shade 25 - 50%                       | 3        | Average channel shade > 50%                                |
| 0                   | Low large wood recruitment                         |          | Medium large wood recruitment                        |          | High large wood recruitment                                |
| 9                   | 1 potential  |          | potential  |          | potential  |
|                     | Barrier(s) preventing juvenile and                 |          | Blockages under some flow                            |          | No fish barriers (any/all crossings                        |
| medium              | adult fish passage                                 | 2        | conditions   |          | by bridge or ford)   |
|                     | High bank or channel alteration                    |          | Moderate bank or channel alteration                  |          | Low bank or channel alteration                             |
|                     | 1 (>25% altered)                                   | 0        | (5-25% altered)                                      | 0        | (<5% altered)  |
| Sub-totals          | 2  | 4        |  | 3        |  |
|                     | Seasonal surface water                             |          | Permanent surface water                              |          | Permanent surface water                                    |
| Wildlife Habitat    |  |          |  | 3        | throughout reach   |
| Score:              | 1 Low habitat diversity                            |          | Moderate habitat diversity                           |          | High habitat diversity                                     |
| 0                   | High human disturbance                             |          | Moderate human disturbance                           |          | Low human disturbance                                      |
| 8                   | 1  |          |  |          |  |
| low                 | No contiguous patches 5 acres in                   | 2        | Contiguous patches 5-10 acres in                     |          | Contiguous patches > 10 acres in                           |
| 1011                | size<br>Low connectivity to upland                 | 2        | size<br>Moderate connectivity to upland              |          | size<br>High connectivity to upland                        |
|                     | 1 habitats   |          | habitats   |          | habitats   |
| Sub-totals          | 3  | 2        | intointes  | 3        | huohuus  |
|                     | No federal or state listed species                 |          | Potential habitat for federal or state               | <u> </u> | Listed federal or state species                            |
| Biodiversity        | No rederat of state listed species                 | 2        | listed species                                       |          | present  |
| Score:              | 1 No ONHP priority habitats                        |          | Potential ONHP priority habitats                     |          | ONHP priority habitats present*                            |
|                     | No locally rare species or habitats                | <u> </u> | Potential locally rare species or                    |          | Locally rare species or habitats                           |
| 7                   | 1  |          | habitats present                                     |          | present  |
|                     | Low native cover (<50% native                      | [        | Medium native cover (50 - 90%                        |          | High native cover (>90% native                             |
| low                 | species cover)                                     | 2        | native species cover)                                |          | species cover)   |
|                     | 1 High human disturbance                           | 0        | Moderate human disturbance                           | 0        | Low human disturbance                                      |
| Sub-totals          | 3  | 4        |  | 0        |  |
| Combined Score      | 41   | l        |  | L        | L  |



**Riparian Corridor Summary Sheet** 

Riparian Site: Clackamas River Riparian Corridor Area: 108 acres Adjacent Wetlands: CL-A-01, CL-A-02 CL-A-03 Adjacent Land Use: Low density residential uses **Riparian Code:** R-CL-A **Field Maps #:** F1, G1, G2 **Field Date(s):** 3/1/07, 3/14/07 & 4/4/07 **Investigators:** EL, TB

### **General Description**

River segment at Carver, downstream from Richardson Creek confluence. Clackamas River, large riverine system with island habitat, broad floodplain, and bottomland cottonwood forest. Steep canyon walls rise above floodplain, with some basalt cliffs. This sites includes small segment of Lower Richardson Creek and lower reach of R-CL-C.

### **Riparian Characteristics**

| Stream/reach: Clackamas River, tributaries<br>Other features: ponds vetlands springs<br>Flooding potential ves no Source: FEMA<br>Fish barriers/impediments: none<br>Large wood features: fir & hardwood, from floods<br>Recruitment potential: vertical: we medium vertical | Gradient: $\boxtimes$ low <2% $\square$ mod 2-4% $\square$ m/s 4-8% $\square$ steep >8%<br>Side slopes: $\square$ <10% $\square$ 10-25% $\boxtimes$ 25-50% $\square$ >50%<br>Average woody vegetated width: $\square$ <25' $\square$ 25-50' $\boxtimes$ >50'<br>Channel shade: $\square$ <25% $\boxtimes$ 25-50% $\square$ 50-75% $\square$ 75-100%<br>Channel alteration: $\square$ <5% $\boxtimes$ 5-25% $\square$ >25% |
|--|---|
| Recruitment potential: $\Box$ low $\Box$ medium $\boxtimes$ high   | Notes: channel migrating due to recent floods, 100' bank loss   |
|  |   |

### Vegetation (\*dominant)

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| ss* |
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#### **Assessment Results**

| <b>Riparian Function</b>      | Rating |          |        | Comments                    |
|-------------------------------|--------|----------|--------|-----------------------------|
| Water Quality                 | Low    | Medium   | 🛛 High |                             |
| Water Storage/Flow Moderation | Low    | 🛛 Medium | 🗌 High |                             |
| Fish Habitat                  | Low    | Medium   | 🛛 High | Coho, Chinook and Steelhead |
| Wildlife Habitat              | Low    | 🗌 Medium | 🛛 High |                             |
| Biodiversity                  | Low    | 🗌 Medium | 🛛 High |                             |

### **Restoration/Enhancement Comments:**

Due to the very active channel migration and flooding in recent years, native plantings or other enhancement measures within the floodplain may be short-lived. Generally, restoration or enhancement opportunities are limited in this area. Over the longer term, as work occurs on or adjacent to Oregon 224 or bridges and culverts are replaced, opportunities to improve connections to the forested habitats above the highway should be evaluated.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-CL-A



| Water Quality         Riparian area dominated by sparse<br>sparse wood vegetation         Riparian area dominated<br>sparse wood vegetation         Riparian area<br>sparse wood vegetation         Riparian area<br>vegetation cover > 50°           14         Impervious surfaces : 10 vegetation cover > 25°         2         Average channel shade > 50°         3         Vegetation cover > 50°           14         Impervious surfaces : 10 vegetation cover > 25°         2         Average channel shade > 50°         3         Vegetation cover > 50°           2         Average channel shade > 25%         2         Average channel shade > 50°         3         Netrado no cover > 50°           2         Average vidth of natural<br>in riparian area         3         Sight soil erosion potenti<br>in riparian area         3         Netrado no cover > 50°           3         No floodplains or wetlands in<br>in riparian area         3         Sight soil erosion potenti<br>in riparian area         3         Wetlands in riparian area           3         Indervisit wood vegetation         2         vestand in riparian area         3  | Function            |         | Low (1 pt)                           |   | Medium (2 pts)                         |    | High (3 pts)                         |
|---|---------------------|---------|--------------------------------------|---|--|----|--------------------------------------|
| Score:         Average width of natural<br>vegetation over < 25         Average vidth of natural<br>vegetation over < 25         Average vidth of natural<br>vegetation over < 25         Average vidth of natural<br>vegetation over < 25         Verage vidth of natural<br>vegetation vegetation<br>vetation vegetation<br>vetation vegetation<br>vetation vegetation vegetation<br>vetation vegetation<br>vetation<br>vetation vegetation<br>vet |                     |         |                                      |   |  |    | Riparian area dominated by dense     |
| Score:       vegetation over < $25^\circ$ cover $2^\circ$ to $9^\circ$ 3       egetation over < > 9^\circ         14       Impervious surfaces > 25%       Impervious surfaces > 10       impervious surfaces > 10         14       Average channel shade < 25%   | Water Quality       |         |                                      |   |  | 3  |                                      |
| $\begin{array}{ c c c c c c c c c c c c c c c c c c c$  | S aara              |         |                                      |   |  | -  |                                      |
| high         Average channel shade < 25%         2         Average channel shade > 50%         Average channel shade > 50%           Severe soil crosion potential within<br>riparian area         Sight soil crosion potential<br>within riparian area         Sight soil crosion potential<br>parian area           Sub-totals         0         No floodplains or wetlands in<br>riparian area         Few, small floodplains or wetlands<br>in riparian area         Multiple or large floodpl<br>subwatershed           Score:         1         Located in middle 1/3 of<br>subwatershed         Located in upper 1/3 of<br>subwatershed         Located in upper 1/3 of<br>subwatershed         Located in upper 1/3 of<br>subwatershed         Softwoody vegetation<br>wetland or floodplain           Medium         -20% woody vegetation cover<br>within wetland or floodplain         2         Wetland or floodplain         Softwoody vegetation<br>wetland or floodplain           Medium         -25% klered)         2         (5-25% woody vegetation<br>wetlands         Low wood we concertivity to upland<br>hadiats         Low concertivity to upland<br>hadiats         No fish identified         Potential fish presence         Fish-bearing stream (Of<br>CoDF or other source)           Store cover         0         Average channel shade < 25%  |                     | <b></b> |                                      |   |  |    |                                      |
| Severe soil crosion potential within<br>inparian area         Moderate soil crosion potential<br>within riparian area         Slight soil crosion potential<br>in riparian area         Slight soil crosion potential<br>within riparian area         Slight soil crosion potential<br>in riparian area         Slight soil crosion potential<br>within riparian area         Slight soil crosion potential<br>in riparian area         Slight soil crosion potential<br>within riparian area           Score:         1         No floodplains or wetlands in<br>riparian area         Ecoated in indide 1/3 of<br>subwatershed         Moderate bank or channel alteration         Moderate bank or channel alteration<br>(<5% woody vegetation cover   | 14                  |         | •                                    |   | · · · · · · · · · · · · · · · · · · ·  | 3  | · •                                  |
| Inparian area         within riparian area         inparian area         inparian area         inparian area         inparian area           Sub-totals         0         0         2         2         Multiple or large floodplins or wellands in inparian area         3         wellands in inparian area           moderation         Located in lower 1/3 of subwatershed         Located in upper 1/3 of subwatershed         Located in nupper 1/3 of subwatershed         Softwoody vegetation         Located in nupper 1/3 of subwatershed         Located in nupper 1/3 of subwatershed         Located in nupper 1/3 of subwatershed         Softwoody vegetation         Vertaid or floodplain         Vertaid or floodplain         Vertaid or floodplain         Low back or channel alteration         C <5% altered)   | high                |         |                                      | 2 | Average channel shade 25-50%           |    | Average channel shade > 50%          |
| Sub-totals       0       12         Water storage/ flow<br>moderation       No floodplains or wetlands in<br>i priparian area       Few, small floodplains or wetlands<br>in riparian area       Multiple or large floodplains         Score:       1       Located in lower 1/3 of<br>subwatershed       Located in middle 1/3 of<br>subwatershed       Multiple or large floodplain         Score:       -20% woody vegetation cover<br>within wetland or floodplain       20-50% woody vegetation<br>wetland or floodplain       Softwoody vegetation<br>wetland or floodplain         medium       -25% altered)       -20-50% woody vegetation<br>within wetland or floodplain       -20-50% woody vegetation<br>wetland or floodplain         sub-totals       1  |                     |         | Severe soil erosion potential within |   |  |    | Slight soil erosion potential within |
| Value storage/ flow<br>moderation         No floodplains or wetlands in<br>riparian area         Few, small floodplains or wetlands<br>in riparian area         Multiple or large floodpla<br>wetlands in riparian area           Score:         1         Located in lower 1/3 of<br>subwatershed         Located in upper 1/3 of<br>subwatershed         Score:         20-50% woody vegetation within         Score/<br>wetlands in riparian area           10         within wetland or floodplain         Vetland or floodplain         Vetland or floodplain         Score/<br>wetlands in riparian area           10         within wetland or floodplain         Vetland or floodplain         Vetland or floodplain         Vetland or floodplain           medium         C20% woody vegetation cover         20-50% woody vegetation within         Low water shed         Low bank or channel alteration         Score:         0         Average channel shade 25 - 50%         0         Average channel shade 72 - 50%         0 <td></td> <td></td> <td>riparian area</td> <td></td> <td>within riparian area</td> <td>3</td> <td>riparian area</td>  |                     |         | riparian area                        |   | within riparian area                   | 3  | riparian area                        |
| moderation         riparian area         in riparian area         3         wetlands in riparian area           Score:         i         Located in lower 1/3 of         Located in middle 1/3 of         Located in upper 1/3 of           Score:         i         subwatershed         subwatershed         Subwatershed           10         within wetland or floodplain         >50% woody vegetation         >50% woody vegetation           medium         High bank or channel alteration         2 wetland or floodplain         >50% woody vegetation           medium         Low connectivity to upland         Moderate connectivity to upland         I. Low bank or channel alteration         I. Bub banks         Softwords         Sof   | Sub-totals          | 0       |                                      | 2 |  | 12 |                                      |
| Seore:         Located in lower 1/3 of<br>subwatershed         Located in middle 1/3 of<br>subwatershed         Located in upper 1/3 of<br>subwatershed           1         subwatershed         subwatershed         subwatershed         subwatershed           10         -20% woody vegetation cover         20.50% woody vegetation within         wetland or floodplain         vetland or floodplain           medium         -225% attered)         2         -22% attered)         Low onak or channel atteration           1         -255% attered)         2         -22% attered)         -25% attered)         -25% attered)           3         -25% woody vegetation within<br>habitats         -25% attered)         -25% attered)         -25% attered)           50b-totals         1         -25% attered)         -25% attered)         -25% attered)           50cre:         0         Average channel shade >25%         2         Average channel shade >25% attered)         -0   | Water storage/ flow |         | No floodplains or wetlands in        |   | Few, small floodplains or wetlands     |    | Multiple or large floodplains or     |
| Score:         1         subwatershed         subwatershed         subwatershed           10         -20% woody vegetation cover         20.50% woody vegetation within         >50% woody vegetation           10         -20% woody vegetation cover         20.50% woody vegetation within         >50% woody vegetation           medium         -1         20.50% woody vegetation within         >50% woody vegetation           medium         -25% altered)         2         Vestador of codplain         Low bank or channel alteration           1         Low connectivity to upland habitats         -         Moderate connectivity to upland habitats         -           50b-totals         1         -         6         -         3         -           Store:         0         Average channel shade > 25%         2         Average channel shade > 5.50%         0         Average channel shade > 2.50%           Score:         0         Average channel alteration potential         Potential         -         DoF or other source)           13  | moderation          |         | -                                    |   | in riparian area                       | 3  | wetlands in riparian area            |
| 10         -20% woody vegetation cover<br>within wetland or floodplain         20.50% woody vegetation within<br>wetland or floodplain         >50% woody vegetation<br>wetland or floodplain           medium         -25% altered)         2         22% altered)         Low bank or channel alteration<br>habitats         1         No derate bank or channel alteration<br>habitats         1         Low connectivity to upland<br>habitats         1  | -                   |         |                                      |   | Located in middle 1/3 of               |    |                                      |
| 10       within wetland or floodplain       2       wetland or floodplain       wetland or floodplain         medium       Higb bank or channel alteration       2       (5-25% altered)       2       (5-25% altered)         2       (5-25% altered)       2       (5-25% altered)       4       Higb connectivity to uplan habitats       1         Sub-totals       1       Moderate connectivity to uplan habitats       1       Higb connectivity to uplan habitats       1       1       Higb connectivity to uplan habitats       1   | Score:              | 1       | 1                                    |   |  |    |                                      |
| medium         High bank or channel alteration<br>(>25% altered)         Moderate bank or channel alteration<br>(>5% altered)         Low bank or channel alteration<br>(>5% altered)         Low bank or channel alteration<br>(>5% altered)           Sub-totals         1         Low connectivity to upland<br>habitats         Abotats         3           Sub-totals         1         No fish identified         Potential fish presence         Fish-bearing stream (OE<br>0) Average channel shade < 25%   |                     |         |                                      |   |  |    | >50% woody vegetation within         |
| medium(>25% altered)2(5-25% altered)(<5% altered)Low connectivity to upland<br>habitats2Moderate connectivity to upland<br>habitatsHigh connectivity to upland<br>habitatsSub-totals1-63Fish Habitat0No fish identified1Potential fish presence3Fish-bearing stream (OE<br>o DF or other source)Socre:0Average channel shade < 25%  | 10                  |         | within wetland or floodplain         | 2 | •                                      |    | wetland or floodplain                |
| Low connectivity to upland<br>habitats         Moderate connectivity to upland<br>habitats         High connectivity to upland<br>habitats           Sub-totals         1         6         3         High connectivity to upland<br>habitats           Fish Habitat         No fish identified         Potential fish presence         3         Fish-bearing stream (OD<br>ODF or other source)           Score:         0         Average channel shade < 25%  |                     |         | 5                                    |   |  |    | Low bank or channel alteration       |
| Sub-totals12habitats1habitatsSub-totals1635Fish HabitatNo fish identifiedPotential fish presenceFish-bearing stream (OL<br>3 ODF or other source)Source)Score:0Average channel shade <25%   | medium              |         |                                      | 2 | (5-25% altered)                        |    |                                      |
| Sub-totals         1         1         6         3         1           Sub-totals         1         No fish identified         Potential fish presence         Fish-bearing stream (OE         3         ODF or other source)         4         Average channel shade >25 + 50%         0         Average channel shade >26         Contisula         No fish barriers (any/all or contisula         Sothotals         0<  |                     |         | Low connectivity to upland           |   | Moderate connectivity to upland        |    | High connectivity to upland          |
| Fish Habitat       No fish identified       Potential fish presence       Fish-bearing stream (OC         Score:       0       Average channel shade < 25%  |                     |         | habitats                             | 2 | habitats                               |    | habitats                             |
| Fish Habitat       O       Average channel shade < 25%       2       Average channel shade 25 - 50%       0       Average channel shade > 25%         13       Low large wood recruitment potential       Medium large wood recruitment potential       High large wood recruitment potential       No fish barriers (any/all display)         high       Barrier(s) preventing juvenile and adult fish passage       Blockages under some flow conditions       No fish barriers (any/all display)       No fish barriers (any/all display)         Sub-totals       0       Seasonal surface water       Permanent surface water       Permanent surface water       Permanent surface water         13       Seasonal surface water       Permanent surface water       Permanent surface water       Permanent surface water       Permanent surface water         13       No contiguous patches 5 acres in size       No contiguous patches 5 acres in size       Contiguous patches 5-10 acres in size       Contiguous patches 5-10 acres in size       Contiguous patches 5-10 acres in size       High connectivity to upla habitats         14       No contiguous patches 5 acres in size       No federal or state listed species       Potential habitat for federal or state sp present       Size       Contiguous patches 5-10 acres in size       High connectivity to upla habitats  | Sub-totals          | 1       |                                      | 6 |  | 3  |                                      |
| Score:       0       Average channel shade < 25%  |                     |         | No fish identified                   |   | Potential fish presence                |    | Fish-bearing stream (ODFW,           |
| 13Low large wood recruitment<br>potentialMedium large wood recruitment<br>potentialHigh large wood recruitment<br>potentialJigh large wood re   | Fish Habitat        |         |                                      |   |  | 3  | ODF or other source)                 |
| 13       potential       3       potential       3       potential         high       Barrier(s) preventing juvenile and adult fish passage       Blockages under some flow conditions       3       by bridge or ford)         13       High bank or channel alteration (>22% altered)       Moderate bank or channel alteration (>22% altered)       Low bank or channel alteration (>2% so altered)       Permanent surface water       Permanent su   | Score:              | 0       | Average channel shade < 25%          | 2 | Average channel shade 25 - 50%         | 0  | Average channel shade > 50%          |
| 13       potential       3       potential       3       potential         high       Barrier(s) preventing juvenile and adult fish passage       Blockages under some flow conditions       3       by bridge or ford)       0       (<5% altered)   |                     |         | Low large wood recruitment           |   | Medium large wood recruitment          |    | High large wood recruitment          |
| highadult fish passageconditions3by bridge or ford)High bank or channel alteration<br>0High bank or channel alteration<br>(>25% altered)Moderate bank or channel alteration<br>(5-25% altered)Low bank or channel alteration<br>0Sub-totals04Moderate bank or channel alteration<br>(5-25% altered)Low bank or channel alteration<br>0Sub-totals04Permanent surface water9Wildlife HabitatSeasonal surface waterModerate habitat diversity3Score:<br>13Low habitat diversityModerate habitat diversity3High human disturbance<br>size2Moderate human disturbance1Low connectivity to upland<br>habitatsNo contiguous patches 5 acres in<br>sizeContiguous patches 5-10 acres in<br>sizeContiguous patches > 10<br>sizeSub-totals04Moderate connectivity to upland<br>habitatsHigh connectivity to upland<br>habitatsNo federal or state listed speciesPotential habitat for federal or state sp<br>presentListed federal or state sp<br>present13No locally rare species or habitatsPotential locally rare species or<br>habitatsSource (<50% native<br>species cover)Moderate connectivity to upland<br>habitatsHigh native cover (>90%<br>species cover)13No locally rare species or habitatsPotential locally rare species or<br>habitats presentSo   | 13                  |         | potential                            |   | -                                      | 3  |                                      |
| NumberHigh bank or channel alteration<br>(>25% altered)Moderate bank or channel alteration<br>(Low bank or channel alteration<br>(Sub-totals049Wildlife HabitatSeasonal surface water49Score:Low habitat diversityModerate habitat diversity3Score:Low habitat diversityModerate habitat diversity3High human disturbance2Moderate habitat diversity3High human disturbance2Moderate connectivity to upland<br>habitats2No contiguous patches 5 acres in<br>size2Moderate connectivity to upland<br>habitats3Sub-totals049BiodiversityNo federal or state listed speciesPotential habitat for federal or state sp<br>listed species9BiodiversityNo locally rare species or habitatsPotential habitat for federal or state sp<br>listed species313No locally rare species or habitatsPotential habitat for federal or state sp<br>listed species3BiodiversityNo locally rare species or habitatsPotential locally rare species or habitats present<br>habitats present313No locally rare species or habitatsPotential locally rare species or habitats present313No locally rare species or habitatsPotential locally rare species or habitats present313No locally rare species or habitatsPotential locally rare species or habitats present313No locally rare species or habitatsPotential locally rare species or habitats pres  |                     |         | Barrier(s) preventing juvenile and   |   | Blockages under some flow              |    | No fish barriers (any/all crossings  |
| 0(>25% altered)2(5-25% altered)0(<5% altered)Sub-totals0AAAAAWildlife HabitatSeasonal surface waterAPermanent surface water3Permanent surface water3Score:Low habitat diversityModerate habitat diversity3High habitat diversity13High human disturbance2Moderate human disturbance1Low human disturbance13No contiguous patches 5 acres in sizeContiguous patches 5-10 acres in sizeSub-totals0AModerate connectivity to upland habitatsModerate connectivity to upland habitatsHigh connectivity to upland habitatsHigh connectivity to upland habitatsHigh connectivity to upland habitatsKeteral or state speciesSub-totals0APotential habitat for federal or state speciesSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsASub-totals   | high                |         | adult fish passage                   |   | conditions                             | 3  | by bridge or ford)                   |
| 0(>25% altered)2(5-25% altered)0(<5% altered)Sub-totals0AAAAAWildlife HabitatSeasonal surface waterAPermanent surface water3Permanent surface water3Score:Low habitat diversityModerate habitat diversity3High habitat diversity13High human disturbance2Moderate human disturbance1Low human disturbance13No contiguous patches 5 acres in sizeContiguous patches 5-10 acres in sizeSub-totals0AModerate connectivity to upland habitatsModerate connectivity to upland habitatsHigh connectivity to upland habitatsHigh connectivity to upland habitatsHigh connectivity to upland habitatsKeteral or state speciesSub-totals0APotential habitat for federal or state speciesSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsSub-totalsASub-totals   |                     |         | High bank or channel alteration      |   | Moderate bank or channel alteration    |    | Low bank or channel alteration       |
| Sub-totals049Sub-totals049Wildlife HabitatSeasonal surface waterPermanent surface water9Score:Low habitat diversityModerate habitat diversity3High human disturbance2Moderate human disturbance1Low how connectivity to uplandNo contiguous patches 5 acres in sizeContiguous patches 5-10 acres in sizeContiguous patches 5-10 acres in sizeSub-totals04Moderate connectivity to uplandModerate connectivity to uplandHigh connectivity to uplandhubitats2Potential habitat for federal or state9BiodiversityNo federal or state listed speciesPotential habitat for federal or state9Score:No No ONHP priority habitatsPotential couly rare species or habitats313No locally rare species or habitatsPotential couly rare species or habitats present313No locally rare species or habitatsPotential couly rare species or habitats present313No locally rare species or habitatsPotential couly rare species or habitats present313No locally rare species or habitatsPotential couly rare species or habitats present313No locally rare species or habitatsPotential couly rare species or habitats present313No locally rare species or habitatsPotential couly rare species or habitats present313No locally rare species or habitatsPotential couly rare species or habitats present313<   |                     | 0       | -                                    | 2 | (5-25% altered)                        | 0  | (<5% altered)                        |
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| 13       No contiguous patches 5 acres in size       Contiguous patches 5-10 acres in size       Contiguous patches 5 I0 acres in size       Contiguous patches 5 I0 acres in size         high       Low connectivity to upland o habitats       Low connectivity to upland habitats       Moderate connectivity to upland habitats       High connectivity to upland habitats         Sub-totals       0       4       Sub-totals       Distribution of the second se   | Store.              |         |                                      |   |  | 3  |                                      |
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| Biodiversity       No federal or state listed species       Potential habitat for federal or state listed species       Listed federal or state sp present         Score:       No ONHP priority habitats       Potential ONHP priority habitats       3       ONHP priority habitats present         13       No locally rare species or habitats       Potential locally rare species or habitats present       3       Locally rare species or habitats present         high       Low native cover (<50% native species cover)  | Sub-totals          | 0       |                                      | 4 |  | 9  |                                      |
| Biodiversity     Isted species     3     present       Score:     No ONHP priority habitats     Potential ONHP priority habitats     3     ONHP priority habitats reserves       13     No locally rare species or habitats     Potential locally rare species or habitats reserves     3     Locally rare species or habitats reserves       13     Low native cover (<50% native species cover)   |                     | Ť       | No federal or state listed species   |   | Potential habitat for federal or state |    | Listed federal or state species      |
| Score:       No ONHP priority habitats       Potential ONHP priority habitats       3       ONHP priority habitats priority habitats         13       No locally rare species or habitats       Potential locally rare species or habitats       Cocally rare species or habitats       Cocally rare species or habitats       Locally rare species or habitats         high       Low native cover (<50% native species cover)   | Biodiversity        |         | No rederar or state listed species   |   |  | 3  |                                      |
| No locally rare species or habitats     Potential locally rare species or habitats     Locally rare species or habitats       high     Low native cover (<50% native species cover)   | Score:              |         | No ONHP priority habitats            |   |  |    | ONHP priority habitats present*      |
| 13     habitats present     3     present       high     Low native cover (<50% native species cover)   |                     |         |                                      |   | L                                      |    |                                      |
| high     Low native cover (<50% native species cover)     Medium native cover (50 - 90% native species cover)     High native cover (>90% species cover)       0     High human disturbance     2     Moderate human disturbance     0     Low human disturbance       Sub-totals     0     Image: species cover in the species  | 13                  |         | to locary rate species of nabitats   |   |  | 3  |                                      |
| high     species cover)     2     native species cover)     species cover)       0     High human disturbance     2     Moderate human disturbance     0     Low human disturbance       Sub-totals     0     Image: Sub-totals     4     Image: Sub-totals     9   |                     |         | Low native cover (<50% native        |   | 8                                      | -  | High native cover (>90% native       |
| 0     High human disturbance     2     Moderate human disturbance     0     Low human disturbance       Sub-totals     0     4     9     9  | high                |         |                                      | 2 |  |    | U N                                  |
| Sub-totals     0     4     9  |                     | 0       | · ·                                  | 2 |  | 0  | · · ·                                |
|   | Sub totals          |         |                                      |   |  |    |                                      |
| Combined Score 63   |                     | L V     |                                      | 4 |  | "  | I                                    |
|   | Combined Score      | 63      | ]                                    |   |  |    |                                      |

# Damascus Goal 5/7 Natural Features Inventory Riparian Corridor Summary Sheet

WINTER BROOK

Riparian Site: Clackamas River Tributary Riparian Corridor Area: 12 acres Adjacent Wetlands: N/A Adjacent Land Use: Residential uses Riparian Code: R-CL-C Field Maps #: G2 Field Date(s): 3/14/07 Investigators: EL, TB

# **General Description**

Upper reach of small tributary to Clackamas River; constrained and altered by nearby development. The southern site boundary is Tong Road, approximately 1,000 feet north of its intersection with Oregon 224. Below the road, the stream is part of R-CL-A.

# **Riparian Characteristics**

| Flooding potential yes no Source:<br>Fish barriers/impediments: culverts, flow, gradient<br>Large wood features: none noted | Gradient: $\Box$ low <2% $\Box$ mod 2-4% $\boxtimes$ m/s 4-8% $\boxtimes$ steep >8%<br>Side slopes: $\boxtimes$ <10% $\Box$ 10-25% $\Box$ 25-50% $\Box$ >50%<br>Average woody vegetated width: $\Box$ <25' $\boxtimes$ 25-50' $\Box$ >50'<br>Channel shade: $\Box$ <25% $\boxtimes$ 25-50% $\Box$ 50-75% $\Box$ 75-100%<br>Channel alteration: $\Box$ <5% $\Box$ 5-25% $\boxtimes$ >25% |
|---|---|
| Large wood features: none noted   | Channel alteration: 🔲 <5% 🗍 5-25% 🔀 >25%  |
| Recruitment potential: 🛛 low 🗌 medium 🗌 high  | Notes:  |

# Vegetation (\*dominant)

| Trees            | Shrubs               | Herbs/Emergents      |
|------------------|----------------------|----------------------|
| Douglas fir*     | Himalayan blackberry | Ornamental plantings |
| Black cottonwood | Hazelnut             | Sword fern           |
| Bigleaf maple    |                      | English ivy          |
|                  |                      |                      |
|                  |                      |                      |

### **Assessment Results**

| Riparian Function             | Rating  |          |        | Comments |
|-------------------------------|---------|----------|--------|----------|
| Water Quality                 | Low     | Medium   | 🛛 High |          |
| Water Storage/Flow Moderation | Low Low | Medium   | 🗌 High |          |
| Fish Habitat                  | Low     | Medium   | 🗌 High |          |
| Wildlife Habitat              | Low     | 🗌 Medium | High   |          |
| Biodiversity                  | Low Low | 🗌 Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

Potential enhancement measures include:

- streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat, species diversity
- removal of noxious species
- reduction of herbicide and pesticide use near streams

Enhancement actions would require the cooperation of landowners.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functions Assessment – R-CL-C



| Function            | Low (1 pt)                           |    | Medium (2 pts)                          |   | High (3 pts)                               |
|---------------------|--------------------------------------|----|---|---|--|
|                     | Riparian area dominated by sparse    |    | Riparian area dominated by herbs or     |   | Riparian area dominated by dense           |
| Water Quality       | herbs or no vegetation               | 2  | sparse woody vegetation                 |   | woody vegetation                           |
| Score:              | Average width of natural             | ~  | Average width of natural vegetation     |   | Average width of natural                   |
|                     | vegetation cover < 25'               | 2  | cover: 25' to 50'                       |   | vegetation cover $> 50$ '                  |
| 12                  | Impervious surfaces > 25%            |    | Impervious surfaces: 10 - 25%           | 3 | Impervious surfaces < 10%                  |
| high                | Average channel shade < 25%          | 2  | Average channel shade 25-50%            |   | Average channel shade > 50%                |
|                     | Severe soil erosion potential within |    | Moderate soil erosion potential         |   | Slight soil erosion potential within       |
|                     | riparian area                        |    | within riparian area                    | 3 | riparian area                              |
| Sub-totals          | 0                                    | 6  |   | 6 |  |
| Water storage/ flow | No floodplains or wetlands in        |    | Few, small floodplains or wetlands      |   | Multiple or large floodplains or           |
| moderation          | 1 riparian area                      |    | in riparian area                        |   | wetlands in riparian area                  |
|                     | Located in lower 1/3 of              |    | Located in middle 1/3 of                |   | Located in upper 1/3 of                    |
| Score:              | subwatershed                         |    | subwatershed                            | 3 | subwatershed                               |
|                     | <20% woody vegetation cover          |    | 20-50% woody vegetation within          |   | >50% woody vegetation within               |
| 7                   | 1 within wetland or floodplain       |    | wetland or floodplain                   |   | wetland or floodplain                      |
|                     | High bank or channel alteration      |    | Moderate bank or channel alteration     |   | Low bank or channel alteration             |
| low                 | 1 (>25% altered)                     |    | (5-25% altered)                         |   | (<5% altered)                              |
|                     | Low connectivity to upland           | •  | Moderate connectivity to upland         |   | High connectivity to upland                |
|                     | 1 habitats                           |    | habitats                                |   | habitats                                   |
| Sub-totals          | 4                                    | 0  |   | 3 |  |
|                     | No fish identified                   |    | Potential fish presence                 |   | Fish-bearing stream (ODFW,                 |
| Fish Habitat        | 1                                    |    | · · · · · · · · · · · · · · · · · · ·   |   | ODF or other source)                       |
| Score:              | 0 Average channel shade < 25%        | 2  | Average channel shade 25 - 50%          | 0 | Average channel shade > 50%                |
|                     | Low large wood recruitment           |    | Medium large wood recruitment           |   | High large wood recruitment                |
| 6                   | 1 potential                          |    | potential                               |   | potential                                  |
|                     | Barrier(s) preventing juvenile and   |    | Blockages under some flow               |   | No fish barriers (any/all crossings        |
| low                 | 1 adult fish passage                 |    | conditions                              |   | by bridge or ford)                         |
|                     | High bank or channel alteration      |    | Moderate bank or channel alteration     |   | Low bank or channel alteration             |
|                     | (>25% altered)                       | 0  | (5-25% altered)                         | 0 | (<5% altered)                              |
| 0.1.4.4.1           | 4                                    | 2  | · · · · · · · · · · · · · · · · · · ·   | 0 |  |
| Sub-totals          |                                      | 2  |   | 0 |  |
| Wildlife Habitat    | Seasonal surface water               | 2  | Permanent surface water                 |   | Permanent surface water                    |
|                     | 1 Low habitat diversity              | 2  | Moderate habitat diversity              |   | throughout reach<br>High habitat diversity |
| Score:              |                                      |    |   |   |  |
| 7                   | High human disturbance               |    | Moderate human disturbance              |   | Low human disturbance                      |
| ,                   | l                                    |    |   |   |  |
| low                 | No contiguous patches 5 acres in     | 2  | Contiguous patches 5-10 acres in        |   | Contiguous patches > 10 acres in           |
|                     | Low connectivity to upland           | ۷. | size<br>Moderate connectivity to upland |   | size<br>High connectivity to upland        |
|                     | 1 habitats                           | 0  | habitats                                | 0 | habitats                                   |
| 0.1.4.4.1           | 3                                    | 4  | induction                               | 0 | laonais                                    |
| Sub-totals          |                                      | 4  |   | 0 |  |
| Biodiversity        | No federal or state listed species   |    | Potential habitat for federal or state  |   | Listed federal or state species            |
| ÷                   |                                      |    | listed species                          |   | present                                    |
| Score:              | 1 No ONHP priority habitats          |    | Potential ONHP priority habitats        |   | ONHP priority habitats present*            |
| 6                   | No locally rare species or habitats  |    | Potential locally rare species or       |   | Locally rare species or habitats           |
| ~                   |                                      |    | habitats present                        |   | present                                    |
| low                 | Low native cover (<50% native        | n  | Medium native cover (50 - 90%           |   | High native cover (>90% native             |
|                     | species cover)                       | 2  | native species cover)                   |   | species cover)                             |
|                     |                                      | 0  | Moderate human disturbance              | 0 | Low human disturbance                      |
| Sub-totals          | 4                                    | 2  |   | 0 |  |
| Combined Score      | 38                                   |    |   |   |  |

# **Riparian Corridor Summary Sheet**

**Riparian Site:** Deep Creek and Tributaries **Riparian Corridor Area: 34 acres** Adjacent Wetlands: N/A Adjacent Land Use: Low density residential uses

Field Maps #: G4, G5 **Field Date(s):** 4/6/07 Investigators: EL, TB

# **General Description**

Small tributaries to lower Deep Creek and Clackamas River; includes mature mixed forest corridor along 232<sup>nd</sup> Avenue. Lower section of streams disturbed by road crossings and residential uses and development; riparian corridor fragmented at 232<sup>nd</sup> and Oregon 224.

# **Riparian Characteristics**

| Flooding potential $\Box$ yes $\boxtimes$ no Source:Average woody vegetated width: $\Box < 25^{\circ} \Box 25-50^{\circ} \boxtimes >50^{\circ}$ Fish barriers/impediments: culverts, flow, gradient<br>Large wood features: few lg. snags, downed wood<br>Recruitment potential: $\Box$ low $\boxtimes$ medium $\Box$ highAverage woody vegetated width: $\Box < 25^{\circ} \Box 25-50^{\circ} \boxtimes >50^{\circ}$ Channel shade: $\Box < 25^{\circ} \boxtimes 25-50^{\circ} \boxdot 50-75^{\circ} \boxdot 75-100^{\circ}$ Channel alteration: $\Box < 5^{\circ} \boxtimes 5-25^{\circ} \boxdot >25^{\circ}$ Notes: | Fish barriers/impediments: culverts, flow, gradient<br>Large wood features: few lg. snags, downed wood | Channel shade: $\square <25\% \boxtimes 25-50\% \square 50-75\% \square 75-100\%$<br>Channel alteration: $\square <5\% \boxtimes 5-25\% \square >25\%$ |
|--|--|--|
|--|--|--|

# **Vegetation** (\*dominant)

| Trees             | Shrubs               | Herbs/Emergents  |
|-------------------|----------------------|------------------|
| Douglas fir*      | Snowberry*           | Sword fern*      |
| Bigleaf maple*    | Himalayan blackberry | Pasture grasses* |
| Western red cedar | Salmonberry          | -                |
| Cascara           | Hazelnut             |                  |
| Grand fir         | Vine maple           |                  |
| Pacific yew       | Osoberry             |                  |

### **Assessment Results**

| <b>Riparian Function</b>      | Rating |          |        | Comments |
|-------------------------------|--------|----------|--------|----------|
| Water Quality                 | Low    | 🗌 Medium | 🛛 High |          |
| Water Storage/Flow Moderation | Low    | Medium   | 🗌 High |          |
| Fish Habitat                  | Low    | 🛛 Medium | 🗌 High |          |
| Wildlife Habitat              | Low    | Medium   | 🛛 High |          |
| Biodiversity                  | Low    | 🛛 Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

Potential enhancement measures include:

- daylighting of piped stream segments when opportunities arise.
- streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat, species diversity
- removal of noxious species



# **Riparian Code:** R-DE-A

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-DE-A



| Water QualityheScore: $4$ Av13 $$  | evere soil erosion potential within<br>parian area<br>lo floodplains or wetlands in<br>parian area<br>ocated in lower 1/3 of<br>ubwatershed<br>20% woody vegetation cover<br>vithin wetland or floodplain<br>ligh bank or channel alteration<br>>25% altered)<br>ow connectivity to upland<br>abitats   | Riparian area dominated by herbs or sparse woody vegetation         Average width of natural vegetation cover: 25' to 50'         Impervious surfaces: 10 - 25%         2       Average channel shade 25-50%         Moderate soil erosion potential         2       within riparian area         4          Few, small floodplains or wetlands in riparian area         Located in middle 1/3 of subwatershed         20-50% woody vegetation within wetland or floodplain         Moderate bank or channel alteration         2       Moderate connectivity to upland habitats         4  | 3<br>3<br>3<br>9 | High (3 pts)<br>Riparian area dominated by dense<br>woody vegetation<br>Average width of natural<br>vegetation cover > 50'<br>Impervious surfaces < 10%<br>Average channel shade > 50%<br>Slight soil erosion potential withir<br>riparian area<br>Multiple or large floodplains or<br>wetlands in riparian area<br>Located in upper 1/3 of<br>subwatershed<br>>50% woody vegetation within<br>wetland or floodplain<br>Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland<br>habitats |
|--|---|---|------------------|--|
| Score: $  A   A   A   A   A   A   A   A   A   $  | verage width of natural<br>egetation cover < 25'<br>npervious surfaces > 25%<br>verage channel shade < 25%<br>evere soil erosion potential within<br>parian area<br>lo floodplains or wetlands in<br>parian area<br>ocated in lower 1/3 of<br>ubwatershed<br>20% woody vegetation cover<br>vithin wetland or floodplain<br>ligh bank or channel alteration<br>>25% altered)<br>ow connectivity to upland<br>abitats | Average width of natural vegetation<br>cover: 25' to 50'         Impervious surfaces: 10 - 25%         2       Average channel shade 25-50%         Moderate soil erosion potential         2       within riparian area         4       Impervious or wetlands<br>in riparian area         4       Impervious or wetlands         6       Sew, small floodplains or wetlands         7       Few, small floodplains or wetlands         8       Impervious of subwatershed         20-50% woody vegetation within<br>wetland or floodplain         Moderate bank or channel alteration         2       Moderate connectivity to upland<br>habitats | 3 3 9            | Average width of natural<br>vegetation cover > 50'<br>Impervious surfaces < 10%<br>Average channel shade > 50%<br>Slight soil erosion potential withi<br>riparian area<br>Multiple or large floodplains or<br>wetlands in riparian area<br>Located in upper 1/3 of<br>subwatershed<br>>50% woody vegetation within<br>wetland or floodplain<br>Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland  |
| Score:ve13ImhighAvinighAvSub-totals0Water storage/ flowNomoderation1Score:1Sub-totals0Score:1IISub-totals3Fish HabitatImScore:0AvSub-totals3Fish HabitatImScore:0AvIImIImIImIImScore:0IIm  | egetation cover < 25'   | cover: 25' to 50'         Impervious surfaces: 10 - 25%         2       Average channel shade 25-50%         Moderate soil erosion potential         2       Within riparian area         4       Few, small floodplains or wetlands in riparian area         Located in middle 1/3 of subwatershed       20-50% woody vegetation within wetland or floodplain         Moderate bank or channel alteration       20 floodplain         Adderate bank or channel alteration       40         Moderate connectivity to upland habitats       4  | 3                | vegetation cover > 50'<br>Impervious surfaces < 10%<br>Average channel shade > 50%<br>Slight soil erosion potential withir<br>riparian area<br>Multiple or large floodplains or<br>wetlands in riparian area<br>Located in upper 1/3 of<br>subwatershed<br>>50% woody vegetation within<br>wetland or floodplain<br>Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland   |
| 13 $(-)$ highAvSub-totals0Water storage/ flow<br>moderationNa<br>ripScore:1Sub-totals271Iow $(-)$ Sub-totals3Fish Habitat $(-)$ Score:011 $(-)$ medium $(-)$ Sub-totals3Fish Habitat $(-)$ Score:011 $(-)$ medium $(-)$ Sub-totals012 $(-)$ high $(-)$ <t< td=""><td>mpervious surfaces &gt; 25%<br/>verage channel shade &lt; 25%<br/>evere soil erosion potential within<br/>parian area<br/>lo floodplains or wetlands in<br>parian area<br>ocated in lower 1/3 of<br/>ubwatershed<br/>20% woody vegetation cover<br/>vithin wetland or floodplain<br/>ligh bank or channel alteration<br/>&gt;25% altered)<br/>ow connectivity to upland<br/>abitats</br></br></td><td>Impervious surfaces: 10 - 25%2Average channel shade 25-50%2Moderate soil erosion potential2within riparian area4Few, small floodplains or wetlands<br/>in riparian area4Located in middle 1/3 of<br/>subwatershed20-50% woody vegetation within<br/>wetland or floodplainModerate bank or channel alteration<br/>2 (5-25% altered)2Moderate connectivity to upland<br/>habitats4</td><td>3</td><td>Impervious surfaces &lt; 10%<br/>Average channel shade &gt; 50%<br/>Slight soil erosion potential withir<br/>riparian area<br/>Multiple or large floodplains or<br/>wetlands in riparian area<br/>Located in upper 1/3 of<br/>subwatershed<br/>&gt;50% woody vegetation within<br/>wetland or floodplain<br/>Low bank or channel alteration<br/>(&lt;5% altered)<br/>High connectivity to upland</td></t<>   | mpervious surfaces > 25%<br>verage channel shade < 25%<br>evere soil erosion potential within<br>parian area<br>lo floodplains or wetlands in<br>   | Impervious surfaces: 10 - 25%2Average channel shade 25-50%2Moderate soil erosion potential2within riparian area4Few, small floodplains or wetlands<br>in riparian area4Located in middle 1/3 of<br>subwatershed20-50% woody vegetation within<br>wetland or floodplainModerate bank or channel alteration<br>2 (5-25% altered)2Moderate connectivity to upland<br>habitats4   | 3                | Impervious surfaces < 10%<br>Average channel shade > 50%<br>Slight soil erosion potential withir<br>riparian area<br>Multiple or large floodplains or<br>wetlands in riparian area<br>Located in upper 1/3 of<br>subwatershed<br>>50% woody vegetation within<br>wetland or floodplain<br>Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland   |
| high Average A   | verage channel shade < 25%<br>evere soil erosion potential within<br>parian area<br>lo floodplains or wetlands in<br>parian area<br>ocated in lower 1/3 of<br>ubwatershed<br>20% woody vegetation cover<br>vithin wetland or floodplain<br>ligh bank or channel alteration<br>>25% altered)<br>ow connectivity to upland<br>abitats   | <ul> <li>Average channel shade 25-50%</li> <li>Moderate soil erosion potential</li> <li>within riparian area</li> <li>Few, small floodplains or wetlands<br/>in riparian area</li> <li>Located in middle 1/3 of<br/>subwatershed</li> <li>20-50% woody vegetation within<br/>wetland or floodplain</li> <li>Moderate bank or channel alteration</li> <li>(5-25% altered)</li> <li>Moderate connectivity to upland<br/>habitats</li> <li>4</li> </ul>  | 9                | Average channel shade > 50%<br>Slight soil erosion potential withi<br>riparian area<br>Multiple or large floodplains or<br>wetlands in riparian area<br>Located in upper 1/3 of<br>subwatershed<br>>50% woody vegetation within<br>wetland or floodplain<br>Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland   |
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| Sub-totals0Water storage/ flow<br>moderationNo<br>ripScore:1Score:171Iow $(>)$ Sub-totals3Stab-totals3Fish Habitat $(>)$ Score:0Av $(>)$ I $(>)$ Sub-totals3Sub-totals3Sub-totals3Score:0 $(1)$ $(>)$ Sub-totals0Sub-totals0I1 $(>)$ Sub-totals0Sub-totals0Sub-totals0I1 $(>)$ Sub-totals0I1 $(>)$ Sub-totals0I1 $(>)$ Sub-totals0I12 $(a)$ high $(a)$   | parian area   | <ul> <li>2 within riparian area</li> <li>4</li> <li>4</li> <li>Few, small floodplains or wetlands<br/>in riparian area</li> <li>Located in middle 1/3 of<br/>subwatershed</li> <li>20-50% woody vegetation within<br/>wetland or floodplain</li> <li>Moderate bank or channel alteration</li> <li>2 (5-25% altered)</li> <li>Moderate connectivity to upland<br/>habitats</li> <li>4</li> </ul>   |                  | riparian area<br>Multiple or large floodplains or<br>wetlands in riparian area<br>Located in upper 1/3 of<br>subwatershed<br>>50% woody vegetation within<br>wetland or floodplain<br>Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland   |
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| Score: 1 sui<br>1 sui<br>< 2<br>7 1 wi<br>< 2<br>1 wi<br>< 2<br>< 1<br>< 1<br>< 1 compared to the set of t  | ocated in lower 1/3 of<br>ubwatershed<br>20% woody vegetation cover<br>vithin wetland or floodplain<br>ligh bank or channel alteration<br>>25% altered)<br>ow connectivity to upland<br>abitats   | Located in middle 1/3 of<br>subwatershed<br>20-50% woody vegetation within<br>wetland or floodplain<br>Moderate bank or channel alteration<br>2 (5-25% altered)<br>Moderate connectivity to upland<br>habitats<br>4   |                  | Located in upper 1/3 of<br>subwatershed<br>>50% woody vegetation within<br>wetland or floodplain<br>Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland   |
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| 7 $(>)$<br>1 | 20% woody vegetation cover<br>vithin wetland or floodplain<br>ligh bank or channel alteration<br>>25% altered)<br>ow connectivity to upland<br>abitats  | 20-50% woody vegetation within<br>wetland or floodplain<br>Moderate bank or channel alteration<br>(5-25% altered)<br>Moderate connectivity to upland<br>habitats<br>4   |                  | <ul> <li>&gt;50% woody vegetation within<br/>wetland or floodplain</li> <li>Low bank or channel alteration<br/>(&lt;5% altered)</li> <li>High connectivity to upland</li> </ul>  |
| 7 I wi<br>Iow I I I I I I I I I I I I I I I I I I  | vithin wetland or floodplain<br>ligh bank or channel alteration<br>>25% altered)<br>ow connectivity to upland<br>abitats  | <ul> <li>wetland or floodplain</li> <li>Moderate bank or channel alteration</li> <li>2 (5-25% altered)</li> <li>Moderate connectivity to upland</li> <li>habitats</li> <li>4</li> </ul>   |                  | wetland or floodplain<br>Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland  |
| low Hi<br>(>)<br>LC<br>ha<br>Sub-totals 3<br>Fish Habitat 3<br>Score: 0 Av<br>11 LC<br>po<br>11 Ba<br>medium 4<br>Sub-totals 0<br>Sub-totals 0<br>Wildlife Habitat 5<br>Score: LC<br>12 Hi<br>high 2<br>LC<br>0 Av<br>LC<br>0 Av<br>10 Score 2<br>LC<br>10 Av<br>10 Score 2<br>11 Core 2<br>11 Core 2<br>12 Note 2<br>13 Note 2<br>14 Note 2<br>15 Note 2  | ligh bank or channel alteration<br>>25% altered)<br>ow connectivity to upland<br>abitats  | Moderate bank or channel alteration<br>2 (5-25% altered)<br>Moderate connectivity to upland<br>2 habitats<br>4  |                  | Low bank or channel alteration<br>(<5% altered)<br>High connectivity to upland   |
| low(> $1000$ LC $1000$ ASub-totals3Fish Habitat0Score:011LC $1000$ BamediumBa $1000$ CSub-totals0Wildlife HabitatSeeScore:LC12HihighSiz $0000$ LC $00000$ LC $000000000000000000000000000000000000$  | >25% altered)<br>ow connectivity to upland<br>abitats   | <ul> <li>2 (5-25% altered)</li> <li>Moderate connectivity to upland</li> <li>2 habitats</li> <li>4</li> </ul>   |                  | (<5% altered)<br>High connectivity to upland   |
| Lo<br>haSub-totals3Fish HabitatNoScore:0An11Lo<br>pomediumBa<br>adSub-totals0Wildlife Habitat $0$ Score:Lo<br>po12Hi<br>bi<br>corehighLo<br>po   | ow connectivity to upland<br>abitats  | 2 Moderate connectivity to upland<br>habitats<br>4  | 0                | High connectivity to upland  |
| haSub-totals3Fish HabitatNoScore:0Av11 $D_{00}$ mediumad0Vildlife Habitat0Sub-totals0Wildlife HabitatSeScore: $L_{00}$ 12HihighSiz0ha  | abitats   | 2 habitats<br>4   | 0                |  |
| Sub-totals3Fish HabitatNoScore:011Lcmediumad0(>Sub-totals0Wildlife HabitatSeScore:Lc12HihighSiz0ha   |   | 4   | 0                | habitats   |
| Fish Habitat     No       Score:     0       11     po       medium     ad       0     (>       Sub-totals     0       Wildlife Habitat     Se       Score:     Lc       12     Hi       high     Lc       0     ha  |   | •   | 0                | 1  |
| Fish Habitat0Score:0Av11 $po$ mediumBamedium $q$ 0(>Sub-totals0Wildlife HabitatSeeScore:Lc12HihighSiz0Lc0   | o fish identified   | Potential fish presence   | 1                |  |
| Score: 0 Av<br>11 LC<br>po<br>medium ad<br>Sub-totals 0<br>Wildlife Habitat Score: LC<br>12 high Siz   |   |   |                  | Fish-bearing stream (ODFW,   |
| 11     Lc       po     Ba       ad     Hi       0     (>       Sub-totals     0       Wildlife Habitat     See       Score:     Lc       12     Hi       high     Lc       0     Lc       0     Lc       0     Lc       0     Lc   |   |   | 3                | ODF or other source)   |
| 11 $po$ medium $Ba$ medium $dd$ $0$ $(>)$ Sub-totals $0$ Wildlife Habitat $Se$ Score: $Lc$ 12       Hi         high $Siz$ $0$ $Lc$ $0$ $Lc$ $0$ $Lc$   | verage channel shade < 25%  | 2 Average channel shade 25 - 50%  | 0                | Average channel shade > 50%  |
| medium $ \begin{array}{c}                                     $  | ow large wood recruitment   | Medium large wood recruitment   |                  | High large wood recruitment  |
| medium ad<br>medium (><br>Sub-totals 0 (><br>Wildlife Habitat 2<br>Score: 12<br>high Na<br>bigh Lc<br>0 ha   | otorala   | 2 potential   |                  | potential  |
| Hi       0       Sub-totals       0       Wildlife Habitat       Score:       12       high       0       12   | arrier(s) preventing juvenile and   | Blockages under some flow   |                  | No fish barriers (any/all crossing   |
| 0     (>       Sub-totals     0       Wildlife Habitat     Se       Score:     Lc       12     Ne       high     Lc       0     Lc       0     Lc       0     Lc       0     Lc  | dult fish passage   | 2 conditions  |                  | by bridge or ford)   |
| Sub-totals 0 Wildlife Habitat Score: Lc 12 high Lc 0 Keeperformed to the set of the set  | ligh bank or channel alteration   | Moderate bank or channel alteration   |                  | Low bank or channel alteration   |
| Wildlife Habitat     Se       Score:     Lc       12     Hi       high     Lc       0     ha   | >25% altered)   | 2 (5-25% altered)   | 0                | (<5% altered)  |
| Wildlife Habitat<br>Score: Lc<br>12<br>high Siz<br>0 ha  |   | 8   | 3                |  |
| Score: Lc<br>12<br>high Lc<br>0 ha   | easonal surface water   | Permanent surface water   |                  | Permanent surface water  |
| 12<br>high Lc<br>0 ha  |   | 2 .   |                  | throughout reach   |
| 12<br>high<br>Lc<br>0 ha   | ow habitat diversity  | Moderate habitat diversity  | 3                | High habitat diversity   |
| 12<br>high<br>Lc<br>0 ha   | ligh human disturbance  | Moderate human disturbance  |                  | Low human disturbance  |
| high siz   |   | 2   |                  |  |
| U Size Size Size Size Size Size Size Size  | lo contiguous patches 5 acres in  | Contiguous patches 5-10 acres in  |                  | Contiguous patches > 10 acres in   |
| 0 ha   | ze  | size  | 3                | size   |
|  | ow connectivity to upland   | Moderate connectivity to upland   |                  | High connectivity to upland  |
| Sub-totals 0   | abitats   | 2 habitats  | 0                | habitats   |
| 0u0-10uus °  |   | 6   | 6                |  |
|  |   | Potential habitat for federal or state  |                  | Listed federal or state species  |
| Biodiversity   | lo federal or state listed species  | listed species  | 3                | present  |
| Score: 1 No  | lo federal or state listed species  | Potential ONHP priority habitats  | 1                | ONHP priority habitats present*  |
| No   | lo federal or state listed species  | Potential locally rare species or   | 1                | Locally rare species or habitats   |
| 10   |   | <sup>2</sup> habitats present   |                  | present  |
|  | Io ONHP priority habitats   |   | T                | High native cover (>90% native   |
|  | Io ONHP priority habitats   | Medium native cover (50 - 90%   |                  | species cover)   |
| 0 Hi   | lo ONHP priority habitats<br>lo locally rare species or habitats<br>ow native cover (<50% native<br>pecies cover)   | 2 native species cover)   |                  | Low human disturbance  |
| Sub-totals 1   | lo ONHP priority habitats<br>lo locally rare species or habitats<br>ow native cover (<50% native  |   | 0                |  |
| Combined Score 53  | lo ONHP priority habitats<br>lo locally rare species or habitats<br>ow native cover (<50% native<br>pecies cover)   | 2 native species cover)   | 03               |  |

# **Riparian Corridor Summary Sheet**

**Riparian Site:** Kelley Creek and Tributaries **Riparian Corridor Area:** 96 acres **Adjacent Wetlands:** N/A **Adjacent Land Use:** Low density residential uses Riparian Code: R-KE-A Field Maps #: A3, A4 Field Date(s): 3/5/07, 4/6/07 Investigators: EL, TB

# **General Description**

Mainstem/headwaters of Kelley Creek, with multiple tributaries; mixed deciduous and evergreen riparian habitats. Cutthroat trout noted (by ODFW) up to approximately north limit of site. Kelley Creek is a tributary to Johnson Creek.

# **Riparian Characteristics**

# Vegetation (\*dominant)

| Trees            | Shrubs       | Herbs/Emergents   |
|------------------|--------------|-------------------|
| Douglas fir*     | Vine maple*  | Sword fern*       |
| Bigleaf maple*   | Hazelnut     | Pacific waterleaf |
| Red alder        | Salmonberry  | Lady fern         |
| Black cottonwood | Oregon grape | Siberian montia   |
|                  | Snowberry    | Inside out flower |
|                  | Osoberry     | Vanilla leaf      |

### **Assessment Results**

| Riparian Function             | Rating |          | Comme  | nts |
|-------------------------------|--------|----------|--------|-----|
| Water Quality                 | Low    | Medium   | 🗙 High |     |
| Water Storage/Flow Moderation | Low    | Medium   | 🛛 High |     |
| Fish Habitat                  | Low    | Medium   | 🗙 High |     |
| Wildlife Habitat              | Low    | Medium   | 🗙 High |     |
| Biodiversity                  | Low    | Medium [ | High   |     |

# **Restoration/Enhancement Comments:**

- Repair or retrofitting of driveway culverts to improve passage for fish and aquatic organisms.
- Enhance buffer between stream and Rodlum Road with plantings of native tree, shrub and groundcover species
- removal of noxious species (e.g., pockets of Himalayan blackberry).



# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-KE-A



| Function            | Low (1 pt)              |                 | Medium (2 pts)                                     | _  | High (3 pts)                         |
|---------------------|-------------------------|-----------------|--|----|--------------------------------------|
| Watan Quality       | Riparian area domina    |                 | Riparian area dominated by herbs or                | _  | Riparian area dominated by dense     |
| Water Quality       | herbs or no vegetatio   |                 | sparse woody vegetation                            | 3  | woody vegetation                     |
| Score:              | Average width of nat    |                 | Average width of natural vegetation                |    | Average width of natural             |
|                     | vegetation cover < 25   |                 | cover: 25' to 50'<br>Impervious surfaces: 10 - 25% | 3  | vegetation cover $> 50^{\circ}$      |
| 13                  |                         |                 |  | 3  | Impervious surfaces < 10%            |
| high                | Average channel shac    |                 | Average channel shade 25-50%                       | 3  | Average channel shade > 50%          |
|                     | Severe soil erosion po  | otential within | Moderate soil erosion potential                    |    | Slight soil erosion potential within |
|                     | 1 riparian area         |                 | within riparian area                               |    | riparian area                        |
| Sub-totals          | 1                       | 0               |  | 12 |                                      |
| Water storage/ flow | No floodplains or we    |                 | Few, small floodplains or wetlands                 |    | Multiple or large floodplains or     |
| moderation          | riparian area           | 2               | in riparian area                                   |    | wetlands in riparian area            |
| <b>C</b>            | Located in lower 1/3    | of              | Located in middle 1/3 of                           |    | Located in upper 1/3 of              |
| Score:              | subwatershed            |                 | subwatershed                                       | 3  | subwatershed                         |
| 14                  | <20% woody vegetat      |                 | 20-50% woody vegetation within                     |    | >50% woody vegetation within         |
| 14                  | within wetland or flo   |                 | wetland or floodplain                              | 3  | wetland or floodplain                |
| L ! _ L             | High bank or channel    | alteration      | Moderate bank or channel alteration                |    | Low bank or channel alteration       |
| high                | (>25% altered)          |                 | (5-25% altered)                                    | 3  | (<5% altered)                        |
|                     | Low connectivity to     | upland          | Moderate connectivity to upland                    | 3  | High connectivity to upland          |
|                     | habitats                |                 | habitats   |    | habitats                             |
| Sub-totals          | 0                       | 2               |  | 12 |                                      |
| Fish Habitat        | No fish identified      |                 | Potential fish presence                            |    | Fish-bearing stream (ODFW,           |
| Fish Habitat        |                         |                 |  | 3  | ODF or other source)                 |
| Score:              | 0 Average channel shad  | °               | Average channel shade 25 - 50%                     | 3  | Average channel shade > 50%          |
| 10                  | Low large wood recr     |                 | Medium large wood recruitment                      |    | High large wood recruitment          |
| 13                  | potential               | 2               | potential  |    | potential                            |
|                     | Barrier(s) preventing   | juvenile and    | Blockages under some flow                          |    | No fish barriers (any/all crossings  |
| high                | adult fish passage      | 2               | conditions   |    | by bridge or ford)                   |
|                     | High bank or channel    | alteration      | Moderate bank or channel alteration                |    | Low bank or channel alteration       |
|                     | 0 (>25% altered)        | 0               | (5-25% altered)                                    | 3  | (<5% altered)                        |
| Sub-totals          | 0                       | 4               |  | 9  |                                      |
|                     | Seasonal surface wat    | er              | Permanent surface water                            |    | Permanent surface water              |
| Wildlife Habitat    |                         | 2               |  |    | throughout reach                     |
| Score:              | Low habitat diversity   |                 | Moderate habitat diversity                         | 3  | High habitat diversity               |
|                     | High human disturba     | nce             | Moderate human disturbance                         |    | Low human disturbance                |
| 13                  |                         | 2               |  |    |                                      |
|                     | No contiguous patch     | es 5 acres in   | Contiguous patches 5-10 acres in                   |    | Contiguous patches > 10 acres in     |
| high                | size                    |                 | size   | 3  | size                                 |
|                     | Low connectivity to     | 1               | Moderate connectivity to upland                    |    | High connectivity to upland          |
|                     | 0 habitats              | 0               | habitats   | 3  | habitats                             |
| Sub-totals          | 0                       | 4               |  | 9  |                                      |
| D' 11               | No federal or state lis | sted species    | Potential habitat for federal or state             |    | Listed federal or state species      |
| Biodiversity        |                         |                 | listed species                                     | 3  | present                              |
| Score:              | 1 No ONHP priority ha   |                 | Potential ONHP priority habitats                   |    | ONHP priority habitats present*      |
| 11                  | No locally rare specie  |                 | Potential locally rare species or                  |    | Locally rare species or habitats     |
| 11                  |                         | 2               | habitats present                                   | ļ  | present                              |
| modium              | Low native cover (<     | 50% native      | Medium native cover (50 - 90%                      |    | High native cover (>90% native       |
| medium              | species cover)          |                 | native species cover)                              | 3  | species cover)                       |
|                     | 0 High human disturba   | nce 2           | Moderate human disturbance                         | 0  | Low human disturbance                |
| Sub-totals          | 1                       | 4               |  | 6  |                                      |
| Combined Score      | 64                      |                 |  |    |                                      |

# **Riparian Corridor Summary Sheet**

Riparian Site: Upper Noyer Creek Riparian Corridor Area: 195 acres Adjacent Wetlands: NO-A-01, NO-A-02, NO-A-03, NO-A-04 Adjacent Land Use: Farming & low density residential use **Riparian Code:** R-NO-A **Field Maps #:** D5 **Field Date(s):** 3/3/07, 3/13/07, 3/16/07, 4/4/07 **Investigators:** EL, TB

# **General Description**

Upper Noyer Creek with multiple tributaries and associated wetlands. Riparian conditions degraded by farming and development, but restoration opportunities exist and biological health of stream improves dramatically in downstream forested ravines. Noyer Creek drains to Deep Creek before the confluence of Deep Creek and Clackamas River.

# **Riparian Characteristics**

| Stream/reach: Upper Noyer Creek and tributaries                                   | Gradient: $\boxtimes$ low <2% $\square$ mod 2-4% $\square$ m/s 4-8% $\square$ steep >8% |
|---|---|
| Other features: ⊠ ponds ⊠ wetlands ⊠ springs                                      | Side slopes: $\boxtimes$ <10% $\square$ 10-25% $\square$ 25-50% $\square$ >50%          |
| Flooding potential □ yes ⊠ no Source:   | Average woody vegetated width: $\boxtimes$ <25' $\square$ 25-50' $\square$ >50'         |
| Fish barriers/impediments: Culverts at Hwy. 212                                   | Channel shade: $\boxtimes$ <25% $\square$ 25-50% $\square$ 50-75% $\square$ 75-100%     |
| Large wood features: Very limited<br>Recruitment potential: 🛛 low 🗌 medium 🗋 high | Channel alteration: $\square <5\% \square 5-25\% \boxtimes >25\%$                       |

# Vegetation (\*dominant)

| Trees            | Shrubs               | Herbs/Emergents  |
|------------------|----------------------|------------------|
| Douglas fir*     | Vine maple*          | Pasture grasses* |
| Oregon ash*      | Red-osier dogwood    | Sword fern*      |
| Black cottonwood | Douglas spirea       | Dewey's sedge    |
|                  | Hazelnut             | Reed canarygrass |
|                  | Snowberry            |                  |
|                  | Himalayan blackberry |                  |

### **Assessment Results**

| Riparian Function             | Rating  |          | Comments |  |
|-------------------------------|---------|----------|----------|--|
| Water Quality                 | Low     | 🛛 Medium | High     |  |
| Water Storage/Flow Moderation | Low     | 🛛 Medium | 🗌 High   |  |
| Fish Habitat                  | Low     | 🗌 Medium | High     |  |
| Wildlife Habitat              | Low     | 🛛 Medium | High     |  |
| Biodiversity                  | Low Low | 🗌 Medium | 🗌 High   |  |

# **Restoration/Enhancement Comments:**

Riparian corridor downstream of Hwy. 212 enters forested ravine (at City limits) and appears in good condition. Culvert at Hwy. 212 may block fish access to Upper Noyer. Restoration of the stream and forested riparian corridor throughout Upper Noyer could improve water quality, fish habitat and wildlife habitat functions, as well as improving connectivity to and between other Damascus habitats.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-NO-A



| Function            |    | Low (1 pt)                           |          | Medium (2 pts)                         |   | High (3 pts)                        |
|---------------------|----|--------------------------------------|----------|--|---|-------------------------------------|
| runtuun             |    | Riparian area dominated by sparse    |          | Riparian area dominated by herbs or    |   | Riparian area dominated by dense    |
| Water Quality       | 1  | herbs or no vegetation               | 2        | sparse woody vegetation                |   | woody vegetation                    |
|                     |    | Average width of natural             |          | Average width of natural vegetation    |   | Average width of natural            |
| Score:              | 1  | vegetation cover < 25'               |          | cover: 25' to 50'                      |   | vegetation cover $> 50$ '           |
| 10                  |    | Impervious surfaces > 25%            |          | Impervious surfaces: 10 - 25%          | 3 | Impervious surfaces < 10%           |
| medium              | 1  | Average channel shade < 25%          |          | Average channel shade 25-50%           |   | Average channel shade > 50%         |
|                     |    | Severe soil erosion potential within |          | Moderate soil erosion potential        |   | Slight soil erosion potential withi |
|                     |    | riparian area                        |          | within riparian area                   | 3 | riparian area                       |
| Sub-totals          | 2  |                                      | 2        |  | 6 |                                     |
| Water storage/ flow | -  | No floodplains or wetlands in        |          | Few, small floodplains or wetlands     |   | Multiple or large floodplains or    |
| moderation          |    | riparian area                        |          | in riparian area                       | 3 | wetlands in riparian area           |
|                     |    | Located in lower 1/3 of              |          | Located in middle 1/3 of               |   | Located in upper 1/3 of             |
| Score:              |    | subwatershed                         |          | subwatershed                           | 3 | subwatershed                        |
|                     |    | <20% woody vegetation cover          |          | 20-50% woody vegetation within         |   | >50% woody vegetation within        |
| 9                   | 1  | within wetland or floodplain         |          | wetland or floodplain                  |   | wetland or floodplain               |
|                     |    | High bank or channel alteration      |          | Moderate bank or channel alteration    |   | Low bank or channel alteration      |
| medium              | 1  | (>25% altered)                       |          | (5-25% altered)                        |   | (<5% altered)                       |
|                     |    | Low connectivity to upland           |          | Moderate connectivity to upland        |   | High connectivity to upland         |
| ·                   | 1  | habitats                             |          | habitats                               |   | habitats                            |
| Sub-totals          | 3  |                                      | 0        |  | 6 |                                     |
|                     |    | No fish identified                   |          | Potential fish presence                |   | Fish-bearing stream (ODFW,          |
| Fish Habitat        | 1  |                                      |          |  |   | ODF or other source)                |
| Score:              | 1  | Average channel shade < 25%          |          | Average channel shade 25 - 50%         |   | Average channel shade > 50%         |
|                     |    | Low large wood recruitment           |          | Medium large wood recruitment          |   | High large wood recruitment         |
| 6                   | 1  | potential                            |          | potential                              |   | potential                           |
|                     |    | Barrier(s) preventing juvenile and   |          | Blockages under some flow              |   | No fish barriers (any/all crossings |
| low                 |    | adult fish passage                   | 2        | conditions                             |   | by bridge or ford)                  |
|                     |    | High bank or channel alteration      |          | Moderate bank or channel alteration    |   | Low bank or channel alteration      |
|                     | 1  | (>25% altered)                       |          | (5-25% altered)                        |   | (<5% altered)                       |
| Sub-totals          | 4  |                                      | 2        |  | 0 | ·····                               |
|                     |    | Seasonal surface water               |          | Permanent surface water                |   | Permanent surface water             |
| Wildlife Habitat    |    |                                      |          |  | 3 | throughout reach                    |
| Score:              |    | Low habitat diversity                | 2        | Moderate habitat diversity             |   | High habitat diversity              |
|                     |    | High human disturbance               | <u> </u> | Moderate human disturbance             |   | Low human disturbance               |
| 9 .                 |    |                                      | 2        |  |   |                                     |
|                     |    | No contiguous patches 5 acres in     |          | Contiguous patches 5-10 acres in       |   | Contiguous patches > 10 acres in    |
| medium              | 1  | size                                 |          | size                                   |   | size                                |
|                     |    | Low connectivity to upland           |          | Moderate connectivity to upland        |   | High connectivity to upland         |
|                     | 1  | habitats                             |          | habitats                               |   | habitats                            |
| Sub-totals          | 2  |                                      | 4        |  | 3 |                                     |
| D' 1' '             |    | No federal or state listed species   |          | Potential habitat for federal or state |   | Listed federal or state species     |
| Biodiversity        | 1  |                                      | L        | listed species                         |   | present                             |
| Score:              | 1  | No ONHP priority habitats            |          | Potential ONHP priority habitats       |   | ONHP priority habitats present*     |
| 0                   |    | No locally rare species or habitats  | I        | Potential locally rare species or      |   | Locally rare species or habitats    |
| 8                   |    |                                      | 2        | habitats present                       |   | present                             |
| 1                   |    | Low native cover (<50% native        |          | Medium native cover (50 - 90%          |   | High native cover (>90% native      |
| low                 |    | species cover)                       | 2        | native species cover)                  |   | species cover)                      |
|                     |    | High human disturbance               | 2        | Moderate human disturbance             |   | Low human disturbance               |
| Sub-totals          | 2  |                                      | 6        |  | 0 |                                     |
| Combined Score      | 42 |                                      |          |  |   | -                                   |

# **Riparian Corridor Summary Sheet**

Riparian Site: Richardson Creek – West Tributary Riparian Corridor Area: 21 acres Adjacent Wetlands: RI-A-01 Adjacent Land Use: Low density residential uses Riparian Code: R-RI-A Field Maps #: F2, F3 Field Date(s): 3/14/07, 4/4/07 Investigators: EL, TB

# **General Description**

Small Richardson Creek tributary with riparian corridor partly fragmented by road and development. Channel disturbance due to road crossings and land uses particularly noted near the city limits.

# **Riparian Characteristics**

| Stream/reach: Richardson Creek – West Tributary                        | Gradient: $\Box$ low <2% $\Box$ mod 2-4% $\boxtimes$ m/s 4-8% $\Box$ steep >8% |
|--|--|
| Other features: ponds wetlands springs                                 | Side slopes: $\boxtimes$ <10% $\Box$ 10-25% $\Box$ 25-50% $\Box$ >50%          |
| Flooding potential yes no Source:                                      | Average woody vegetated width: $\Box$ <25' $\boxtimes$ 25-50' $\Box$ >50'      |
| Fish barriers/impediments: culverts, low flow                          | Channel shade: $\Box$ <25% $\Box$ 25-50% $\boxtimes$ 50-75% $\Box$ 75-100%     |
| Large wood features: few noted   | Channel alteration: $\Box$ <5% $\boxtimes$ 5-25% $\Box$ >25%                   |
| Recruitment potential: $\boxtimes$ low $\square$ medium $\square$ high | Notes:   |

# Vegetation (\*dominant)

| Trees             | Shrubs               | Herbs/Emergents |
|-------------------|----------------------|-----------------|
| Douglas fir*      | Hazelnut*            | Sword fern*     |
| Bigleaf maple     | Snowberry            | Oregon grape    |
| Black cottonwood  | Osoberry             | English ivy     |
| Western red cedar | Himalayan blackberry |                 |
| Oregon ash        |                      |                 |
| Black hawthorn    |                      |                 |

### **Assessment Results**

| Riparian Function             | Rating  |          |        | Comments |
|-------------------------------|---------|----------|--------|----------|
| Water Quality                 | Low     | 🗌 Medium | 🛛 High |          |
| Water Storage/Flow Moderation | 🛛 Low   | Medium   | 🗌 High |          |
| Fish Habitat                  | Low Low | Medium   | 🗌 High |          |
| Wildlife Habitat              | Low Low | Medium   | 🗌 High |          |
| Biodiversity                  | Low Low | 🔲 Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

- Streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat, species diversity.
- Repair of streambanks and daylighting of piped stream segments when opportunities arise.
- Removal of noxious species.



# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RI-A



| Function            | Low (1 pt)                           | Medium (2 pts)                         | High (3 pts)                         |
|---------------------|--------------------------------------|--|--------------------------------------|
|                     | Riparian area dominated by sparse    | Riparian area dominated by herbs or    | Riparian area dominated by dense     |
| Water Quality       | herbs or no vegetation               | 2 sparse woody vegetation              | woody vegetation                     |
| Score:              | Average width of natural             | Average width of natural vegetation    | e e                                  |
|                     | vegetation cover < 25'               | 2 cover: 25' to 50'                    | vegetation cover > 50'               |
| 13                  | Impervious surfaces > 25%            | Impervious surfaces: 10 - 25%          | 3 Impervious surfaces < 10%          |
| high                | Average channel shade < 25%          | Average channel shade 25-50%           | 3 Average channel shade $> 50\%$     |
|                     | Severe soil erosion potential within | Moderate soil erosion potential        | Slight soil erosion potential within |
|                     | riparian area                        | within riparian area                   | 3 riparian area                      |
| Sub-totals          | 0                                    | 4                                      | 9                                    |
| Water storage/ flow | No floodplains or wetlands in        | Few, small floodplains or wetlands     | Multiple or large floodplains or     |
| moderation          | 1 riparian area                      | in riparian area                       | wetlands in riparian area            |
| <b>a</b>            | Located in lower 1/3 of              | Located in middle 1/3 of               | Located in upper 1/3 of              |
| Score:              | subwatershed                         | subwatershed                           | 3 subwatershed                       |
| _                   | <20% woody vegetation cover          | 20-50% woody vegetation within         | >50% woody vegetation within         |
| 8                   | 1 within wetland or floodplain       | wetland or floodplain                  | wetland or floodplain                |
|                     | High bank or channel alteration      | Moderate bank or channel alteration    | Low bank or channel alteration       |
| low                 | (>25% altered)                       | 2 (5-25% altered)                      | (<5% altered)                        |
|                     | Low connectivity to upland           | Moderate connectivity to upland        | High connectivity to upland          |
|                     | l habitats                           | habitats                               | habitats                             |
| Sub-totals          | 3                                    | 2                                      | 3                                    |
|                     | No fish identified                   | Potential fish presence                | Fish-bearing stream (ODFW,           |
| Fish Habitat        | 1                                    |  | ODF or other source)                 |
| Score:              | 0 Average channel shade $< 25\%$     | 0 Average channel shade 25 - 50%       | 3 Average channel shade > 50%        |
| _                   | Low large wood recruitment           | Medium large wood recruitment          | High large wood recruitment          |
| 8                   | 1 potential                          | potential                              | potential                            |
|                     | Barrier(s) preventing juvenile and   | Blockages under some flow              | No fish barriers (any/all crossings  |
| low                 | 1 adult fish passage                 | conditions                             | by bridge or ford)                   |
|                     | High bank or channel alteration      | Moderate bank or channel alteration    | Low bank or channel alteration       |
|                     | 0 (>25% altered)                     | 2 (5-25% altered)                      | 0 (<5% altered)                      |
| Sub-totals          | 3                                    | 2                                      | 3                                    |
|                     | Seasonal surface water               | Permanent surface water                | Permanent surface water              |
| Wildlife Habitat    |                                      | 2                                      | throughout reach                     |
| Score:              | 1 Low habitat diversity              | Moderate habitat diversity             | High habitat diversity               |
|                     | High human disturbance               | Moderate human disturbance             | Low human disturbance                |
| 7                   | 1                                    | Woder ate Ruman distui banee           | Low numar distribute                 |
|                     | No contiguous patches 5 acres in     | Contiguous patches 5-10 acres in       | Contiguous patches > 10 acres in     |
| low                 | size                                 | 2 size                                 | size                                 |
|                     | Low connectivity to upland           | Moderate connectivity to upland        | High connectivity to upland          |
|                     | l habitats                           | 0 habitats                             | 0 habitats                           |
| Sub-totals          | 3                                    | 4                                      | 0                                    |
| -                   | No federal or state listed species   | Potential habitat for federal or state | Listed federal or state species      |
| Biodiversity        | 1                                    | listed species                         | present                              |
| Score:              | 1 No ONHP priority habitats          | Potential ONHP priority habitats       | ONHP priority habitats present*      |
|                     | No locally rare species or habitats  | Potential locally rare species or      | Locally rare species or habitats     |
| 6                   | 1                                    | habitats present                       | present                              |
|                     | Low native cover (<50% native        | Medium native cover (50 - 90%          | High native cover (>90% native       |
| low                 | species cover)                       | 2 native species cover)                | species cover)                       |
|                     | 1 High human disturbance             | 0 Moderate human disturbance           | 0 Low human disturbance              |
| Sub-totals          | 4                                    | 2                                      | 0                                    |
|                     |                                      | 2                                      |                                      |

# **Riparian Corridor Summary Sheet**

**Riparian Site:** Richardson Creek – Central Confluence Riparian Corridor Area: 78 acres Adjacent Wetlands: N/A Adjacent Land Use: Low density residential uses at edges **Riparian Code: R-RI-B** Field Maps #: E3, F3, F4 Field Date(s): 3/14/07, 3/29/07 Investigators: EL, TB

# **General Description**

Junction of Richardson Creek's main stem and north branch. One of the core riparian habitat areas within City, supporting steelhead trout and coho salmon. Biological health of Richardson Creek increases from upper reaches to lower reaches.

# **Riparian Characteristics**

# **Vegetation** (\*dominant)

| Trees            | Shrubs               | Herbs/Emergents   |
|------------------|----------------------|-------------------|
| Douglas fir*     | Osoberry*            | Sword fern*       |
| Bigleaf maple    | Vine maple           | Stinging nettle   |
| Red alder        | Snowberry            | Inside-out flower |
| Black cottonwood | Hazelnut             | Siberian montia   |
| Oregon ash       | Red elderberry       | Stream violet     |
| Exotic cherry    | Himalayan blackberry | Clematis and ivy  |

### **Assessment Results**

| Riparian Function             | Rating |          | C      | Comments |
|-------------------------------|--------|----------|--------|----------|
| Water Quality                 | Low    | 🗌 Medium | 🛛 High |          |
| Water Storage/Flow Moderation | Low    | Medium   | 🛛 High |          |
| Fish Habitat                  | Low    | 🔲 Medium | 🛛 High |          |
| Wildlife Habitat              | Low    | Medium   | 🛛 High |          |
| Biodiversity                  | Low    | 🔲 Medium | 🛛 High |          |

# **Restoration/Enhancement Comments:**

Site in good condition. Potential enhancement measures include:

- Repair of degraded stream and vegetated corridor area near confluence of main streams, . and at small tributary to north.
- . Removal of noxious species (e.g., pockets of Himalayan blackberry.





# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RI-B



| Function            | Low (1 pt)  |     | Medium (2 pts)                                     |    | High (3 pts)                         |
|---------------------|---|-----|--|----|--------------------------------------|
| Waton Quality       | Riparian area dominated by sparse                   |     | Riparian area dominated by herbs or                |    | Riparian area dominated by dense     |
| Water Quality       | herbs or no vegetation                              |     | sparse woody vegetation                            | 3  | woody vegetation                     |
| Score:              | Average width of natural                            |     | Average width of natural vegetation                | 3  | Average width of natural             |
|                     | vegetation cover < 25'<br>Impervious surfaces > 25% |     | cover: 25' to 50'<br>Impervious surfaces: 10 - 25% |    | vegetation cover > 50'               |
| 16                  |   |     |  | 3  | Impervious surfaces < 10%            |
| high                | Average channel shade < 25%                         |     | Average channel shade 25-50%                       | 3  | Average channel shade > 50%          |
|                     | Severe soil erosion potential within                | 1   | Moderate soil erosion potential                    | -  | Slight soil erosion potential within |
|                     | l riparian area                                     |     | within riparian area                               | 3  | riparian area                        |
| Sub-totals          | 1   | 0   |  | 15 |                                      |
| Water storage/ flow | No floodplains or wetlands in                       |     | Few, small floodplains or wetlands                 |    | Multiple or large floodplains or     |
| moderation          | riparian area                                       | 2   | in riparian area                                   |    | wetlands in riparian area            |
| a                   | Located in lower 1/3 of                             |     | Located in middle 1/3 of                           |    | Located in upper 1/3 of              |
| Score:              | subwatershed  | 2   | subwatershed                                       |    | subwatershed                         |
| 10                  | <20% woody vegetation cover                         |     | 20-50% woody vegetation within                     |    | >50% woody vegetation within         |
| 12                  | within wetland or floodplain                        | 2   | wetland or floodplain                              |    | wetland or floodplain                |
|                     | High bank or channel alteration                     |     | Moderate bank or channel alteration                |    | Low bank or channel alteration       |
| high                | (>25% altered)                                      |     | (5-25% altered)                                    | 3  | (<5% altered)                        |
|                     | Low connectivity to upland                          |     | Moderate connectivity to upland                    | •  | High connectivity to upland          |
|                     | habitats  |     | habitats   | 3  | habitats                             |
| Sub-totals          | 0   | 6   |  | 6  |                                      |
|                     | No fish identified                                  | 1   | Potential fish presence                            |    | Fish-bearing stream (ODFW,           |
| Fish Habitat        |   |     |  | 3  | ODF or other source)                 |
| Score:              | 0 Average channel shade $< 25\%$                    | 0   | Average channel shade 25 - 50%                     | 3  | Average channel shade > 50%          |
|                     | Low large wood recruitment                          |     | Medium large wood recruitment                      |    | High large wood recruitment          |
| 15                  | potential   |     | potential  | 3  | potential                            |
|                     | Barrier(s) preventing juvenile and                  |     | Blockages under some flow                          |    | No fish barriers (any/all crossings  |
| high                | adult fish passage                                  |     | conditions   | 3  | by bridge or ford)                   |
|                     | High bank or channel alteration                     | 1   | Moderate bank or channel alteration                |    | Low bank or channel alteration       |
|                     | 0 (>25% altered)                                    | 0   | (5-25% altered)                                    | 3  | (<5% altered)                        |
| Sub-totals          | 0   | 0   |  | 15 |                                      |
|                     | Seasonal surface water                              | -   | Permanent surface water                            |    | Permanent surface water              |
| Wildlife Habitat    |   |     |  | 3  | throughout reach                     |
| Score:              | Low habitat diversity                               |     | Moderate habitat diversity                         | 3  | High habitat diversity               |
|                     | High human disturbance                              | -   | Moderate human disturbance                         | 2  | Low human disturbance                |
| 15                  | righ human distarbance                              |     | wooderate numan disturbance                        | 3  |                                      |
|                     | No contiguous patches 5 acres in                    |     | Contiguous patches 5-10 acres in                   |    | Contiguous patches > 10 acres in     |
| high                | size  |     | size   | 3  | size                                 |
|                     | Low connectivity to upland                          |     | Moderate connectivity to upland                    |    | High connectivity to upland          |
|                     | 0 habitats  | 0   | habitats   | 3  | habitats                             |
| Sub-totals          | 0   | 0   |  | 15 |                                      |
|                     | No federal or state listed species                  |     | Potential habitat for federal or state             |    | Listed federal or state species      |
| Biodiversity        |   |     | listed species                                     | 3  | present                              |
| Score:              | 1 No ONHP priority habitats                         | 1   | Potential ONHP priority habitats                   |    | ONHP priority habitats present*      |
|                     | No locally rare species or habitats                 |     | Potential locally rare species or                  |    | Locally rare species or habitats     |
| 13                  | ,   |     | habitats present                                   | 3  | present                              |
|                     | Low native cover (<50% native                       |     | Medium native cover (50 - 90%                      |    | High native cover (>90% native       |
| high                | species cover)                                      |     | native species cover)                              | 3  | species cover)                       |
|                     | 0 High human disturbance                            | 0   | Moderate human disturbance                         | 3  | Low human disturbance                |
| Sub-totals          | 1   | 0   |  | 12 |                                      |
| 540 WIGB            |   | · · |  |    | 1                                    |

# Damascus Goal 5/7 Natural Features Inventory Riparian Corridor Summary Sheet



**Riparian Site:** Richardson Creek – Northwest Tributary **Riparian Corridor Area:** 45 acres **Adjacent Wetlands:** RI-C-01, RI-C-02 **Adjacent Land Use:** Residential, farming, commercial Riparian Code: R-RI-C Field Maps #: E3 Field Date(s): 3/9/07, 3/21/07, 3/29/07 Investigators: EL, TB

# **General Description**

Richardson Creek tributary with associated wetlands. Riparian corridor fragmented by roads and development. Forest cover is limited to patches near housing.

# **Riparian Characteristics**

Stream/reach: Richardson Creek - NW TributaryGradieOther features: <a>ponds</a> wetlands</a> springsSide slFlooding potential <a>yes</a> no Source: AverageFish barriers/impediments: road culvertsChannedLarge wood features: few noted, small snagsChannedRecruitment potential: <a>low</a> medium</a> highNotes:

Gradient:  $\Box$  low <2%  $\boxtimes$  mod 2-4%  $\Box$  m/s 4-8%  $\Box$  steep >8% Side slopes:  $\boxtimes$  <10%  $\Box$  10-25%  $\Box$  25-50%  $\Box$  >50% Average woody vegetated width:  $\boxtimes$  <25'  $\Box$  25-50'  $\Box$  >50' Channel shade:  $\Box$  <25%  $\boxtimes$  25-50%  $\Box$  50-75%  $\Box$  75-100% Channel alteration:  $\Box$  <5%  $\Box$  5-25%  $\boxtimes$  >25%

# Vegetation (\*dominant)

| Trees             | Shrubs            | Herbs/Emergents   |
|-------------------|-------------------|-------------------|
| Douglas fir*      | Hazelnut*         | Sword fern*       |
| Bigleaf maple     | Snowberry         | Reed canarygrass* |
| Oregon ash        | Osoberry          | Fringecup         |
| Black cottonwood  | Red-osier dogwood | Dewey's sedge     |
| Western red cedar | English holly     | English ivy       |
| Black hawthorn    |                   |                   |

### **Assessment Results**

| <b>Riparian Function</b>      | Rating  |          |        | Comments |
|-------------------------------|---------|----------|--------|----------|
| Water Quality                 | Low     | 🛛 Medium | 🗌 High |          |
| Water Storage/Flow Moderation | Low     | 🛛 Medium | 🗌 High |          |
| Fish Habitat                  | Low Low | Medium   | 🗌 High |          |
| Wildlife Habitat              | Low Low | Medium   | 🗌 High |          |
| Biodiversity                  | Low     | 🗌 Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

- Install streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat, species diversity.
- Remove noxious species.
- Provide physical buffer between livestock and drainageways.



| Function            | Low (1 pt)                           |   | Medium (2 pts)                         |   | High (3 pts)                         |
|---------------------|--------------------------------------|---|--|---|--------------------------------------|
|                     | Riparian area dominated by sparse    | _ | Riparian area dominated by herbs or    |   | Riparian area dominated by dense     |
| Water Quality       | herbs or no vegetation               | 2 | sparse woody vegetation                |   | woody vegetation                     |
| Score:              | Average width of natural             |   | Average width of natural vegetation    |   | Average width of natural             |
|                     | 1 vegetation cover < 25'             |   | cover: 25' to 50'                      |   | vegetation cover > 50'               |
| 11                  | Impervious surfaces > 25%            |   | Impervious surfaces: 10 - 25%          | 3 | Impervious surfaces < 10%            |
| medium              | Average channel shade < 25%          | 2 | Average channel shade 25-50%           |   | Average channel shade > 50%          |
|                     | Severe soil erosion potential within |   | Moderate soil erosion potential        |   | Slight soil erosion potential withir |
|                     | riparian area                        |   | within riparian area                   | 3 | riparian area                        |
| Sub-totals          | 1                                    | 4 |  | 6 |                                      |
| Water storage/ flow | No floodplains or wetlands in        |   | Few, small floodplains or wetlands     |   | Multiple or large floodplains or     |
| moderation          | riparian area                        |   | in riparian area                       | 3 | wetlands in riparian area            |
| 0                   | Located in lower 1/3 of              |   | Located in middle 1/3 of               |   | Located in upper 1/3 of              |
| Score:              | subwatershed                         |   | subwatershed                           | 3 | subwatershed                         |
|                     | <20% woody vegetation cover          |   | 20-50% woody vegetation within         |   | >50% woody vegetation within         |
| 9                   | 1 within wetland or floodplain       |   | wetland or floodplain                  |   | wetland or floodplain                |
|                     | High bank or channel alteration      |   | Moderate bank or channel alteration    |   | Low bank or channel alteration       |
| medium              | 1 (>25% altered)                     |   | (5-25% altered)                        |   | (<5% altered)                        |
|                     | Low connectivity to upland           |   | Moderate connectivity to upland        |   | High connectivity to upland          |
|                     | l habitats                           |   | habitats                               |   | habitats                             |
| Sub-totals          | 3                                    | 0 |  | 6 |                                      |
| F' 1 H 194-4        | No fish identified                   |   | Potential fish presence                |   | Fish-bearing stream (ODFW,           |
| Fish Habitat        | 1                                    |   |  |   | ODF or other source)                 |
| Score:              | 0  Average channel shade < 25%       | 2 | Average channel shade 25 - 50%         | 0 | Average channel shade > 50%          |
| 7                   | Low large wood recruitment           |   | Medium large wood recruitment          |   | High large wood recruitment          |
| /                   | 1 potential                          |   | potential                              |   | potential                            |
|                     | Barrier(s) preventing juvenile and   |   | Blockages under some flow              |   | No fish barriers (any/all crossings  |
| low                 | adult fish passage                   | 2 | conditions                             |   | by bridge or ford)                   |
|                     | High bank or channel alteration      |   | Moderate bank or channel alteration    |   | Low bank or channel alteration       |
|                     | 1 (>25% altered)                     | 0 | (5-25% altered)                        | 0 | (<5% altered)                        |
| Sub-totals          | 3                                    | 4 |  | 0 |                                      |
| ****                | Seasonal surface water               |   | Permanent surface water                |   | Permanent surface water              |
| Wildlife Habitat    |                                      | 2 |  |   | throughout reach                     |
| Score:              | Low habitat diversity                | 2 | Moderate habitat diversity             |   | High habitat diversity               |
|                     | High human disturbance               |   | Moderate human disturbance             |   | Low human disturbance                |
| 7                   | 1                                    |   |  |   |                                      |
|                     | No contiguous patches 5 acres in     |   | Contiguous patches 5-10 acres in       |   | Contiguous patches > 10 acres in     |
| low                 | l size                               |   | size                                   |   | size                                 |
|                     | Low connectivity to upland           |   | Moderate connectivity to upland        | _ | High connectivity to upland          |
|                     | 1 habitats                           | 0 | habitats                               | 0 | habitats                             |
| Sub-totals          | 3                                    | 4 |  | 0 |                                      |
| Die die en in       | No federal or state listed species   |   | Potential habitat for federal or state |   | Listed federal or state species      |
| Biodiversity        | 1                                    |   | listed species                         |   | present                              |
| Score:              | 1 No ONHP priority habitats          |   | Potential ONHP priority habitats       |   | ONHP priority habitats present*      |
| r                   | No locally rare species or habitats  |   | Potential locally rare species or      |   | Locally rare species or habitats     |
| 6                   | 1                                    |   | habitats present                       |   | present                              |
| low                 | Low native cover (<50% native        | _ | Medium native cover (50 - 90%          |   | High native cover (>90% native       |
| low                 | species cover)                       | 2 | native species cover)                  |   | species cover)                       |
|                     | 1 High human disturbance             | 0 | Moderate human disturbance             | 0 | Low human disturbance                |
| Sub-totals          | 4                                    | 2 |  | 0 |                                      |
| Combined Score      | 40                                   |   |  |   |                                      |



**Riparian Corridor Summary Sheet** 

Riparian Site: Richardson Creek – North Tributary Riparian Corridor Area: 63 acres Adjacent Wetlands: RI-D-01, RI-D-02 Adjacent Land Use: Commercial, residential, farming **Riparian Code:** R-RI-D **Field Maps #:** D4, E3, E4 **Field Date(s):** 3/21/07, 3/29/07, 4/4/07 **Investigators:** EL, TB

# **General Description**

Richardson Creek tributary through Damascus town center. Riparian corridor with wetlands upstream of Safeway in fair condition, otherwise fragmented and/or piped. History of water quality problems related to failed septic; may now be recovering.

# **Riparian Characteristics**

| Stream/reach: Richardson Creek -North Tributary | Gradient: $\square$ low <2% $\boxtimes$ mod 2-4% $\square$ m/s 4-8% $\square$ steep >8%  |
|---|--|
| Other features: 🛛 ponds 🖾 wetlands 🗌 springs    | Side slopes: $\square$ <10% $\boxtimes$ 10-25% $\square$ 25-50% $\square$ >50%   |
|   | Average woody vegetated width: $\boxtimes <25' \square 25-50' \square >50'$<br>Channel shade: $\square <25\% \boxtimes 25-50\% \square 50-75\% \square 75-100\%$ |
| Large wood features: snags, logs near wetland   | Channel alteration: $\square <5\% \square 5-25\% \boxtimes >25\%$  |
| Recruitment potential: 🛛 low 🗌 medium 🗌 high    | Notes:   |

# **Vegetation** (\*dominant)

| Trees            | Shrubs                | Herbs/Emergents   |
|------------------|-----------------------|-------------------|
| Red alder*       | Himalayan blackberry* | Sword fern*       |
| Douglas fir      | Willows               | Reed canarygrass* |
| Bigleaf maple    | Salmonberry           | Inside-out flower |
| Black cottonwood | Hazelnut              | Wood strawberry   |
| Exotic cherry    | Snowberry             |                   |
| English holly    | Salal                 |                   |

# Assessment Results

| Riparian Function             | Rating  | Comments        |
|-------------------------------|---------|-----------------|
| Water Quality                 | Low     | 🛛 Medium 🔲 High |
| Water Storage/Flow Moderation | Low     | 🛛 Medium 🔲 High |
| Fish Habitat                  | Low Low | 🗌 Medium 🔄 High |
| Wildlife Habitat              | Low     | 🛛 Medium 🔲 High |
| Biodiversity                  | Low     | Medium High     |

# **Restoration/Enhancement Comments:**

- Remove noxious species.
- Install streamside plantings of native tree, shrub and groundcover species for thermal cover, habitat, species diversity.
- When road, parking or building improvements planned near stream, evaluate opportunities to replace/retrofit culverts, increase buffers, improve habitat connectivity.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RI-D



| Function            | Low (1 pt)  |   | Medium (2 pts)                                     |   | High (3 pts)                         |
|---------------------|---|---|--|---|--------------------------------------|
| Water Orality       | Riparian area dominated by sparse                     |   | Riparian area dominated by herbs or                |   | Riparian area dominated by dense     |
| Water Quality       | herbs or no vegetation                                | 2 | sparse woody vegetation                            |   | woody vegetation                     |
| Score:              | Average width of natural                              |   | Average width of natural vegetation                |   | Average width of natural             |
|                     | 1 vegetation cover < 25'<br>Impervious surfaces > 25% |   | cover: 25' to 50'<br>Impervious surfaces: 10 - 25% |   | vegetation cover $> 50^{\circ}$      |
| 10                  | •   | 2 | •  |   | Impervious surfaces < 10%            |
| medium              | Average channel shade < 25%                           | 2 | Average channel shade 25-50%                       |   | Average channel shade > 50%          |
|                     | Severe soil erosion potential within                  |   | Moderate soil erosion potential                    | _ | Slight soil erosion potential within |
|                     | riparian area   |   | within riparian area                               | 3 | riparian area                        |
| Sub-totals          | 1   | 6 |  | 3 |                                      |
| Water storage/ flow | No floodplains or wetlands in                         |   | Few, small floodplains or wetlands                 |   | Multiple or large floodplains or     |
| moderation          | riparian area   | 2 | in riparian area                                   |   | wetlands in riparian area            |
| 0                   | Located in lower 1/3 of                               |   | Located in middle 1/3 of                           |   | Located in upper 1/3 of              |
| Score:              | subwatershed  |   | subwatershed                                       | 3 | subwatershed                         |
| 9                   | <20% woody vegetation cover                           |   | 20-50% woody vegetation within                     |   | >50% woody vegetation within         |
| 9                   | within wetland or floodplain                          | 2 | wetland or floodplain                              |   | wetland or floodplain                |
| medium              | High bank or channel alteration                       |   | Moderate bank or channel alteration                |   | Low bank or channel alteration       |
| meatum              | 1 (>25% altered)                                      |   | (5-25% altered)                                    |   | (<5% altered)                        |
|                     | Low connectivity to upland                            |   | Moderate connectivity to upland                    |   | High connectivity to upland          |
| ·····               | - Habitats  |   | habitats   |   | habitats                             |
| Sub-totals          | 2   | 4 |  | 3 |                                      |
| Fish Habitat        | No fish identified                                    |   | Potential fish presence                            |   | Fish-bearing stream (ODFW,           |
|                     |   |   |  |   | ODF or other source)                 |
| Score:              | 0  Average channel shade < 25%                        | 2 | Average channel shade 25 - 50%                     | 0 | Average channel shade > 50%          |
| 7                   | Low large wood recruitment                            |   | Medium large wood recruitment                      |   | High large wood recruitment          |
| /                   | 1 potential   |   | potential  |   | potential                            |
| 1                   | Barrier(s) preventing juvenile and                    |   | Blockages under some flow                          |   | No fish barriers (any/all crossings  |
| low                 | adult fish passage                                    | 2 | conditions   |   | by bridge or ford)                   |
|                     | High bank or channel alteration                       |   | Moderate bank or channel alteration                |   | Low bank or channel alteration       |
|                     | 1 (>25% altered)                                      | 0 | (5-25% altered)                                    | 0 | (<5% altered)                        |
| Sub-totals          | 3   | 4 |  | 0 |                                      |
|                     | Seasonal surface water                                |   | Permanent surface water                            |   | Permanent surface water              |
| Wildlife Habitat    |   | 2 |  |   | throughout reach                     |
| Score:              | Low habitat diversity                                 | 2 | Moderate habitat diversity                         |   | High habitat diversity               |
|                     | High human disturbance                                |   | Moderate human disturbance                         |   | Low human disturbance                |
| 9                   | 1   |   |  |   |                                      |
|                     | No contiguous patches 5 acres in                      |   | Contiguous patches 5-10 acres in                   |   | Contiguous patches > 10 acres in     |
| medium              | size  |   | size   | 3 | size                                 |
|                     | Low connectivity to upland                            |   | Moderate connectivity to upland                    | _ | High connectivity to upland          |
|                     | 1 habitats  | 0 | habitats   | 0 | habitats                             |
| Sub-totals          | 2   | 4 |  | 3 |                                      |
| Diadizausita        | No federal or state listed species                    |   | Potential habitat for federal or state             |   | Listed federal or state species      |
| Biodiversity        |   |   | listed species                                     | 3 | present                              |
| Score:              | 1 No ONHP priority habitats                           |   | Potential ONHP priority habitats                   |   | ONHP priority habitats present*      |
| 0                   | No locally rare species or habitats                   |   | Potential locally rare species or                  |   | Locally rare species or habitats     |
| 8                   |   | L | habitats present                                   |   | present                              |
| low                 | Low native cover (<50% native                         |   | Medium native cover (50 - 90%                      |   | High native cover (>90% native       |
| 1017                | species cover)  | 2 | native species cover)                              |   | species cover)                       |
|                     | 1 High human disturbance                              | 0 | Moderate human disturbance                         | 0 | Low human disturbance                |
| Sub-totals          | 3   | 2 |  | 3 |                                      |
| Combined Score      | 43  |   |  |   |                                      |

# **Riparian Corridor Summary Sheet**

WINTER BROOK

**Riparian Site:** Richardson Creek – Northeast Tributary **Riparian Corridor Area:** 47 acres **Adjacent Wetlands:** RI-E-01 **Adjacent Land Use:** Residential and farming Riparian Code: R-RI-E Field Maps #: D4, E4 Field Date(s): 3/16/07, 3/29/07 Investigators: EL, TB

# **General Description**

Richardson Creek tributary; largely farmed and developed corridor with minimal forest cover along stream channel.

# **Riparian Characteristics**

| Large wood features: only noted in uplands Channel alteration: $\Box <5\% \Box 5-25\% \boxtimes >25\%$<br>Recruitment potential: $\boxtimes$ low $\Box$ medium $\Box$ high Notes: |
|---|
| Recruitment potential: 🛛 low 🗌 medium 🗌 high 🛛 Notes:   |

# **Vegetation** (\*dominant)

| Trees            | Shrubs                | Herbs/Emergents   |
|------------------|-----------------------|-------------------|
| Red alder*       | Himalayan blackberry* | English ivy*      |
| Douglas fir      | Willows               | Reed canarygrass* |
| Bigleaf maple    | Snowberry             | Sword fern        |
| Black cottonwood | Hazelnut              |                   |
| Exotic cherry    |                       |                   |

# **Assessment Results**

| <b>Riparian Function</b>      | Rating  |        |        | Comments |
|-------------------------------|---------|--------|--------|----------|
| Water Quality                 | Low     | Medium | 🛛 High |          |
| Water Storage/Flow Moderation | Low     | Medium | 🗌 High |          |
| Fish Habitat                  | Low Low | Medium | 🗌 High |          |
| Wildlife Habitat              | Low Low | Medium | 🗌 High |          |
| Biodiversity                  | Low Low | Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

Area is highly disturbed and potential enhancement measures should be weighed against other sites, but two key measures are:

- Install native streamside plantings for thermal cover over stream.
- Remove noxious species.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RI-E



| Function            | Low (1 pt)                           |   | Medium (2 pts)                         |   | High (3 pts)                          |
|---------------------|--------------------------------------|---|--|---|---------------------------------------|
|                     | Riparian area dominated by sparse    |   | Riparian area dominated by herbs or    |   | Riparian area dominated by dense      |
| Water Quality       | herbs or no vegetation               | 2 | sparse woody vegetation                |   | woody vegetation                      |
| Score:              | Average width of natural             | • | Average width of natural vegetation    |   | Average width of natural              |
|                     | vegetation cover < 25'               | 2 | cover: 25' to 50'                      |   | vegetation cover > 50'                |
| 12                  | Impervious surfaces > 25%            |   | Impervious surfaces: 10 - 25%          | 3 | Impervious surfaces < 10%             |
| high                | Average channel shade < 25%          | 2 | Average channel shade 25-50%           |   | Average channel shade > 50%           |
|                     | Severe soil erosion potential within |   | Moderate soil erosion potential        |   | Slight soil erosion potential withir  |
|                     | riparian area                        |   | within riparian area                   | 3 | riparian area                         |
| Sub-totals          | 0                                    | 6 |  | 6 |                                       |
| Water storage/ flow | No floodplains or wetlands in        |   | Few, small floodplains or wetlands     |   | Multiple or large floodplains or      |
| moderation          | 1 riparian area                      |   | in riparian area                       |   | wetlands in riparian area             |
| a                   | Located in lower 1/3 of              |   | Located in middle 1/3 of               |   | Located in upper 1/3 of               |
| Score:              | subwatershed                         |   | subwatershed                           | 3 | subwatershed                          |
| _                   | <20% woody vegetation cover          |   | 20-50% woody vegetation within         |   | >50% woody vegetation within          |
| 7                   | 1 within wetland or floodplain       |   | wetland or floodplain                  |   | wetland or floodplain                 |
|                     | High bank or channel alteration      |   | Moderate bank or channel alteration    |   | Low bank or channel alteration        |
| low                 | 1 (>25% altered)                     |   | (5-25% altered)                        |   | (<5% altered)                         |
|                     | Low connectivity to upland           |   | Moderate connectivity to upland        |   | High connectivity to upland           |
|                     | <sup>1</sup> habitats                |   | habitats                               |   | habitats                              |
| Sub-totals          | 4 ·                                  | 0 |  | 3 | · · · · · · · · · · · · · · · · · · · |
|                     | No fish identified                   |   | Potential fish presence                |   | Fish-bearing stream (ODFW,            |
| Fish Habitat        | 1                                    |   |  |   | ODF or other source)                  |
| Score:              | Average channel shade < 25%          | 2 | Average channel shade 25 - 50%         |   | Average channel shade > 50%           |
| 0                   | Low large wood recruitment           |   | Medium large wood recruitment          |   | High large wood recruitment           |
| 8                   | 1 potential                          |   | potential                              |   | potential                             |
|                     | Barrier(s) preventing juvenile and   |   | Blockages under some flow              |   | No fish barriers (any/all crossings   |
| low                 | adult fish passage                   |   | conditions                             | 3 | by bridge or ford)                    |
|                     | High bank or channel alteration      |   | Moderate bank or channel alteration    |   | Low bank or channel alteration        |
|                     | 1 (>25% altered)                     |   | (5-25% altered)                        |   | (<5% altered)                         |
| Sub-totals          | 3                                    | 2 |  | 3 |                                       |
|                     | Seasonal surface water               |   | Permanent surface water                |   | Permanent surface water               |
| Wildlife Habitat    |                                      | 2 |  |   | throughout reach                      |
| Score:              | Low habitat diversity                |   | Moderate habitat diversity             |   | High habitat diversity                |
|                     | High human disturbance               |   | Moderate human disturbance             |   | Low human disturbance                 |
| 7                   | 1                                    |   |  |   |                                       |
|                     | No contiguous patches 5 acres in     |   | Contiguous patches 5-10 acres in       |   | Contiguous patches > 10 acres in      |
| low                 | size                                 | 2 | size                                   |   | size                                  |
|                     | Low connectivity to upland           |   | Moderate connectivity to upland        |   | High connectivity to upland           |
|                     | l habitats                           |   | habitats                               |   | habitats                              |
| Sub-totals          | 3                                    | 4 |  | 0 |                                       |
| Die die een die     | No federal or state listed species   |   | Potential habitat for federal or state |   | Listed federal or state species       |
| Biodiversity        | 1                                    | L | listed species                         |   | present                               |
| Score:              | 1 No ONHP priority habitats          |   | Potential ONHP priority habitats       |   | ONHP priority habitats present*       |
| 1                   | No locally rare species or habitats  |   | Potential locally rare species or      |   | Locally rare species or habitats      |
| 6                   | 1                                    |   | habitats present                       |   | present                               |
| low                 | Low native cover (<50% native        |   | Medium native cover (50 - 90%          |   | High native cover (>90% native        |
| low                 | species cover)                       | 2 | native species cover)                  |   | species cover)                        |
|                     | 1 High human disturbance             |   | Moderate human disturbance             |   | Low human disturbance                 |
| Sub-totals          | 4                                    | 2 |  | 0 |                                       |
| Combined Score      | 40                                   |   |  |   |                                       |

# **Riparian Corridor Summary Sheet**

Riparian Site: Richardson Creek – East Tributary Riparian Corridor Area: 42 acres Adjacent Wetlands: N/A Adjacent Land Use: Residential and farming Riparian Code: R-RI-F Field Maps #: F4, F5 Field Date(s): 3/29/07 Investigators: EL, TB

# **General Description**

Southern Richardson Creek tributary with multiple forks. Riparian corridor partly fragmented by roads, farming and development. Stream is mostly piped in residential area to the northwest.

# **Riparian Characteristics**

Stream/reach: Richardson Creek – East Tributary<br/>Other features: D ponds D wetlands D springsGradie<br/>Side slFlooding potential D yes D no Source:Average<br/>Channe<br/>Channe<br/>Large wood features: few notedChanne<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/>Channe<br/

Gradient:  $\Box$  low <2%  $\boxtimes$  mod 2-4%  $\Box$  m/s 4-8%  $\Box$  steep >8% Side slopes:  $\boxtimes$  <10%  $\Box$  10-25%  $\Box$  25-50%  $\Box$  >50% Average woody vegetated width:  $\boxtimes$  <25'  $\Box$  25-50'  $\Box$  >50' Channel shade:  $\boxtimes$  <25%  $\Box$  25-50%  $\Box$  50-75%  $\Box$  75-100% Channel alteration:  $\Box$  <5%  $\Box$  5-25%  $\boxtimes$  >25%

# Vegetation (\*dominant)

| Trees             | Shrubs                | Herbs/Emergents  |
|-------------------|-----------------------|------------------|
| Douglas fir *     | Himalayan blackberry* | Sword fern*      |
| Bigleaf maple     | Willows               | Reed canarygrass |
| Black cottonwood  | Salal                 | English ivy      |
| Grand fir         | Hazelnut              |                  |
| Western red cedar | Red flowering currant |                  |
|                   | Osoberrry             |                  |

### **Assessment Results**

| Riparian Function             | Rating |          |          | Comments |
|-------------------------------|--------|----------|----------|----------|
| Water Quality                 | Low    | 🛛 Medium | 🗌 High   |          |
| Water Storage/Flow Moderation | Low    | 🛛 Medium | High     |          |
| Fish Habitat                  | Low    | Medium   | 🗌 High   |          |
| Wildlife Habitat              | Low    | 🗌 Medium | 🗌 High 🛛 |          |
| Biodiversity                  | Low    | Medium   | 🗌 High   |          |

# **Restoration/Enhancement Comments:**

- streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat corridor, species diversity.
- removal of noxious species.
- daylighting of piped stream segments when opportunities arise.



# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RI-F



| Function<br>Water Quality<br>Score:<br>9<br>medium | 1   | Low (1 pt)<br>Riparian area dominated by sparse<br>herbs or no vegetation | 2 | Medium (2 pts)<br>Riparian area dominated by herbs or |   | High (3 pts)<br>Riparian area dominated by dense |
|--|-----|---|---|---|---|--|
| Score:<br>9  | . 1 | herbs or no vegetation  | 2 |   |   |  |
| 9  | 1   |   | - | sparse woody vegetation                               |   | woody vegetation                                 |
| 9  | 1   | Average width of natural  |   | Average width of natural vegetation                   |   | Average width of natural                         |
| ·  |     | vegetation cover < 25'  |   | cover: 25' to 50'                                     |   | vegetation cover $> 50$ '                        |
| medium   |     | Impervious surfaces > 25%   |   | Impervious surfaces: 10 - 25%                         | 3 | Impervious surfaces < 10%                        |
|  | 1   | Average channel shade < 25%   |   | Average channel shade 25-50%                          | • | Average channel shade > 50%                      |
|  |     | Severe soil erosion potential within                                      |   | Moderate soil erosion potential                       |   | Slight soil erosion potential withir             |
|  |     | riparian area   | 2 | within riparian area                                  |   | riparian area                                    |
| Sub-totals   | 2   |   | 4 |   | 3 |  |
| Water storage/ flow                                | İ — | No floodplains or wetlands in   |   | Few, small floodplains or wetlands                    |   | Multiple or large floodplains or                 |
| moderation   |     | riparian area   | 2 | in riparian area                                      |   | wetlands in riparian area                        |
|  |     | Located in lower 1/3 of   |   | Located in middle 1/3 of                              |   | Located in upper 1/3 of                          |
| Score:   |     | subwatershed  |   | subwatershed  | 3 | subwatershed                                     |
|  |     | <20% woody vegetation cover   |   | 20-50% woody vegetation within                        |   | >50% woody vegetation within                     |
| 9  |     | within wetland or floodplain  | 2 | wetland or floodplain                                 |   | wetland or floodplain                            |
|  |     | High bank or channel alteration   |   | Moderate bank or channel alteration                   |   | Low bank or channel alteration                   |
| medium   | 1   | (>25% altered)  |   | (5-25% altered)                                       |   | (<5% altered)                                    |
|  |     | Low connectivity to upland  |   | Moderate connectivity to upland                       |   | High connectivity to upland                      |
|  | 1   | habitats  |   | habitats  |   | habitats   |
| Sub-totals   | 2   |   | 4 |   | 3 |  |
|  |     | No fish identified  |   | Potential fish presence                               |   | Fish-bearing stream (ODFW,                       |
| Fish Habitat                                       | 1   |   |   | •   |   | ODF or other source)                             |
| Score:   | 1   | Average channel shade < 25%   |   | Average channel shade 25 - 50%                        |   | Average channel shade > 50%                      |
|  |     | Low large wood recruitment  |   | Medium large wood recruitment                         |   | High large wood recruitment                      |
| 5  | 1   | potential   |   | potential   |   | potential  |
|  |     | Barrier(s) preventing juvenile and  |   | Blockages under some flow                             |   | No fish barriers (any/all crossings              |
| low  | 1   | adult fish passage  |   | conditions  |   | by bridge or ford)                               |
|  |     | High bank or channel alteration   |   | Moderate bank or channel alteration                   |   | Low bank or channel alteration                   |
|  | 1   | (>25% altered)  |   | (5-25% altered)                                       |   | (<5% altered)                                    |
| Sub-totals   | 5   |   | 0 |   | 0 |  |
|  |     | Seasonal surface water  |   | Permanent surface water                               |   | Permanent surface water                          |
| Wildlife Habitat                                   |     |   | 2 |   |   | throughout reach                                 |
| Score:   | 1   | Low habitat diversity   |   | Moderate habitat diversity                            |   | High habitat diversity                           |
|  |     | High human disturbance  |   | Moderate human disturbance                            |   | Low human disturbance                            |
| 6  | 1   |   |   |   |   |  |
|  |     | No contiguous patches 5 acres in  |   | Contiguous patches 5-10 acres in                      |   | Contiguous patches > 10 acres in                 |
| low  | 1   | size  |   | size  |   | size   |
|  |     | Low connectivity to upland  |   | Moderate connectivity to upland                       |   | High connectivity to upland                      |
|  | 1   | habitats  |   | habitats  |   | habitats   |
| Sub-totals   | 4   |   | 2 |   | 0 |  |
| nt. It   |     | No federal or state listed species  |   | Potential habitat for federal or state                |   | Listed federal or state species                  |
| Biodiversity                                       |     |   | L | listed species  |   | present  |
| Score:   | 1   | No ONHP priority habitats   |   | Potential ONHP priority habitats                      |   | ONHP priority habitats present*                  |
| <i>z</i>   |     | No locally rare species or habitats                                       |   | Potential locally rare species or                     |   | Locally rare species or habitats                 |
| 5  |     |   |   | habitats present                                      |   | present  |
| low  |     | Low native cover (<50% native   |   | Medium native cover (50 - 90%                         |   | High native cover (>90% native                   |
| low  |     | species cover)  | ļ | native species cover)                                 |   | species cover)                                   |
|  | 1   | High human disturbance  |   | Moderate human disturbance                            |   | Low human disturbance                            |
| Sub-totals   | 5   |   | 0 |   | 0 |  |
| Combined Score                                     | 34  |   |   |   |   |  |

# Damascus Goal 5/7 Natural Features Inventory Riparian Corridor Summary Sheet



**Riparian Site:** Rock Creek – South Tributary **Riparian Corridor Area:** 69 acres **Adjacent Wetlands:** RO-A-01, RO-A-02, RO-A-03 **Adjacent Land Use:** Residential and farming at edges **Riparian Code:** R-RO-A **Field Maps #:** F1, F2 **Field Date(s):** 3/9/07, 3/14/07, 4/4/07 **Investigators:** EL, TB

# **General Description**

Lower Rock Creek tributary with multiple associated wetlands and large man-made pond with dam. With exception of west end, site generally contains forested riparian corridors.

# **Riparian Characteristics**

| Stream/reach: Rock Creek – South Tributary      | Gradient: $\Box$ low <2% $\Box$ mod 2-4% $\boxtimes$ m/s 4-8% $\Box$ steep >8% |
|---|--|
| Other features: 🛛 ponds 🖾 wetlands 🗌 springs    | Side slopes: $\Box$ <10% $\Box$ 10-25% $\boxtimes$ 25-50% $\Box$ >50%          |
| Flooding potential 🗌 yes 🖾 no Source:           | Average woody vegetated width: $\Box$ <25' $\Box$ 25-50' $\boxtimes$ >50'      |
| Fish barriers/impediments: dam at large pond    | Channel shade: $\Box$ <25% $\Box$ 25-50% $\boxtimes$ 50-75% $\Box$ 75-100%     |
| Large wood features: snags, stumps, downed logs | Channel alteration: $\Box$ <5% $\boxtimes$ 5-25% $\Box$ >25%                   |
| Recruitment potential: 🗌 low 🖾 medium 🗍 high    | Notes:   |
| Recruitment potential: 📋 low 🔀 medium 🛄 high    | Notes:   |

# Vegetation (\*dominant)

| Trees                                   | Shrubs               | Herbs/Emergents    |
|---|----------------------|--------------------|
| Red alder*                              | Salmonberry*         | Sword fern*        |
| Western red cedar*                      | Red elderberry       | Creeping buttercup |
| Douglas fir                             | Osoberry             | Maidenhair fern    |
| Bigleaf maple                           | Hazelnut             | Skunk cabbage      |
| Black cottonwood                        | Snowberry            | Reed canarygrass   |
|   | Willows              |                    |
| *************************************** | Himalayan blackberry |                    |

# Assessment Results

| Riparian Function             | Rating |          |        | Comments |
|-------------------------------|--------|----------|--------|----------|
| Water Quality                 | Low    | Medium   | 🔀 High |          |
| Water Storage/Flow Moderation | Low    | 🛛 Medium | 🗌 High |          |
| Fish Habitat                  | Low    | 🛛 Medium | 🗌 High |          |
| Wildlife Habitat              | Low    | Medium   | 🛛 High |          |
| Biodiversity                  | Low    | 🛛 Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

- Remove noxious species (especially Himalayan blackberry).
- Plant native evergreens to diversify forest understory.
- Provide shade cover around (and potentially deepen) pond to reduce summer water temperatures.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RO-A



| Function            |    | Low (1 pt)  |     | Medium (2 pts)                                      |       | High (3 pts)  |
|---------------------|----|---|-----|---|-------|---|
| Weter Orality       |    | Riparian area dominated by sparse                               |     | Riparian area dominated by herbs or                 |       | Riparian area dominated by dense                    |
| Water Quality       |    | herbs or no vegetation  |     | sparse woody vegetation                             | 3     | woody vegetation                                    |
| Score:              |    | Average width of natural  |     | Average width of natural vegetation                 | 3     | Average width of natural                            |
| 14                  |    | vegetation cover < 25'<br>Impervious surfaces > 25%             |     | cover: 25' to 50'<br>Impervious surfaces: 10 - 25%  |       | vegetation cover > 50'<br>Impervious surfaces < 10% |
|                     |    | `   |     | -   | 3     |   |
| high                |    | Average channel shade < 25%                                     |     | Average channel shade 25-50%                        | 3     | Average channel shade > 50%                         |
|                     |    | Severe soil erosion potential within                            | _   | Moderate soil erosion potential                     |       | Slight soil erosion potential within                |
|                     |    | riparian area   | 2   | within riparian area                                |       | riparian area                                       |
| Sub-totals          | 0  |   | 2   |   | 12    |   |
| Water storage/ flow |    | No floodplains or wetlands in                                   |     | Few, small floodplains or wetlands                  | _     | Multiple or large floodplains or                    |
| moderation          |    | riparian area   |     | in riparian area                                    | 3     | wetlands in riparian area                           |
| Score:              |    | Located in lower 1/3 of   |     | Located in middle 1/3 of                            |       | Located in upper 1/3 of                             |
| 30016.              | 1  | subwatershed  |     | subwatershed  |       | subwatershed  |
| 10                  |    | <20% woody vegetation cover                                     | ~   | 20-50% woody vegetation within                      |       | >50% woody vegetation within                        |
| 10                  |    | within wetland or floodplain<br>High bank or channel alteration | 2   | wetland or floodplain                               |       | wetland or floodplain                               |
| medium              |    | (>25% altered)  | 2   | Moderate bank or channel alteration (5-25% altered) |       | Low bank or channel alteration (<5% altered)        |
| meurum              |    | Low connectivity to upland                                      | 4   | Moderate connectivity to upland                     |       | High connectivity to upland                         |
|                     |    | habitats  | 2   | habitats  |       | habitats  |
| 0.1                 | 1  | naurais   | 6   | naonats   | 3     | naonais   |
| Sub-totals          | 1  |   | 0   | 7   | د<br> |   |
| Fish Habitat        | 1  | No fish identified  |     | Potential fish presence                             |       | Fish-bearing stream (ODFW,                          |
| Score:              | 1  | Average channel shade < 25%                                     | 0   | Average channel shade 25 - 50%                      | 3     | ODF or other source)<br>Average channel shade > 50% |
| 50016.              | 0  | -   | 0   | -   | 3     |   |
| 9                   |    | Low large wood recruitment potential                            | 2   | Medium large wood recruitment potential             |       | High large wood recruitment<br>potential            |
| ,                   |    | Barrier(s) preventing juvenile and                              | 2   | Blockages under some flow                           |       | No fish barriers (any/all crossing                  |
| medium              |    | adult fish passage  |     | conditions  |       | by bridge or ford)                                  |
| nculum              |    |   |     |   |       |   |
|                     |    | High bank or channel alteration                                 |     | Moderate bank or channel alteration                 |       | Low bank or channel alteration $(59)$               |
|                     | 0  | (>25% altered)  | 2   | (5-25% altered)                                     | 0     | (<5% altered)                                       |
| Sub-totals          | 2  |   | 4   |   | 3     |   |
|                     |    | Seasonal surface water  |     | Permanent surface water                             |       | Permanent surface water                             |
| Wildlife Habitat    |    |   |     |   | 3     | throughout reach                                    |
| Score:              |    | Low habitat diversity   |     | Moderate habitat diversity                          | 3     | High habitat diversity                              |
| <i>.</i> .          |    | High human disturbance  |     | Moderate human disturbance                          |       | Low human disturbance                               |
| 13                  |    |   | 2   |   |       |   |
| hiah                |    | No contiguous patches 5 acres in                                |     | Contiguous patches 5-10 acres in                    |       | Contiguous patches > 10 acres in                    |
| high                |    | size  |     | size  | 3     | size  |
|                     |    | Low connectivity to upland                                      | 2   | Moderate connectivity to upland                     | 0     | High connectivity to upland                         |
|                     | 0  | habitats  | 2   | habitats  |       | habitats  |
| Sub-totals          | 0  |   | • 4 |   | 9     |   |
| Biodiversity        |    | No federal or state listed species                              |     | Potential habitat for federal or state              | 2     | Listed federal or state species                     |
| ·                   |    | No ONUE priority habitata                                       |     | listed species                                      | 3     | present<br>ONULD priority hebitate present*         |
| Score:              | 1  | No ONHP priority habitats                                       |     | Potential ONHP priority habitats                    |       | ONHP priority habitats present*                     |
| 10                  | 1  | No locally rare species or habitats                             |     | Potential locally rare species or                   |       | Locally rare species or habitats                    |
|                     |    | Low native cover (<50% native                                   |     | habitats present<br>Medium native cover (50 - 90%   |       | present<br>High native cover (>90% native           |
| medium              |    | species cover (<50% native                                      |     | native species cover)                               | 3     | species cover)                                      |
|                     | 0  | High human disturbance  | 2   | Moderate human disturbance                          | 0     | Low human disturbance                               |
|                     | _  |   |     | into derate numan disturbance                       |       |   |
| Sub-totals          | 2  |   | 2   |   | 6     |   |
| Combined Score      | 56 |   |     |   |       |   |
|                     |    | -   |     |   |       |   |



**Riparian Corridor Summary Sheet** 

Riparian Site: Rock Creek – Sunnyside Tributary Riparian Corridor Area: 21 acres Adjacent Wetlands: RO-B-01 Adjacent Land Use: Low density residential and farming Riparian Code: R-RO-B Field Maps #: E2 Field Date(s): 3/21/07, 3/29/07 Investigators: EL, TB, ACS

# **General Description**

Rock Creek tributary with ash swale. Meandering channel has been altered in several locations, and ponds excavated. Fish have been documented by ODFW downstream, west of Rock Creek Road and outside city limits.

# **Riparian Characteristics**

# **Vegetation** (\*dominant)

| Trees       | Shrubs               | Herbs/Emergents  |
|-------------|----------------------|------------------|
| Oregon ash* | Himalayan blackberry | Reed canarygrass |
| Douglas fir |                      |                  |
|             |                      |                  |
|             |                      |                  |

# **Assessment Results**

| Riparian Function             | Rating |                       |        | Comments |
|-------------------------------|--------|-----------------------|--------|----------|
| Water Quality                 | Low    | 🔀 Medium              | 🗌 High |          |
| Water Storage/Flow Moderation | Low    | <sup>•</sup> 🛛 Medium | 🗌 High |          |
| Fish Habitat                  | Low    | Medium                | 🗌 High |          |
| Wildlife Habitat              | Low    | Medium                | 🗌 High |          |
| Biodiversity                  | 🛛 Low  | Medium                | 🗌 High |          |

# **Restoration/Enhancement Comments:**

- streamside plantings of native shrub and groundcover species for thermal cover, soil stabilization, habitat corridor, species diversity.
- removal of noxious species.
- daylighting of piped stream segments when opportunities arise.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RO-B



| Function                          | Low (1 pt)  |   | Medium (2 pts)                                       |   | High (3 pts)   |
|-----------------------------------|---|---|--|---|--|
| Water Quality                     | Riparian area dominated by sparse                     | 2 | Riparian area dominated by herbs or                  |   | Riparian area dominated by dense                         |
| Water Quanty                      | herbs or no vegetation                                |   | sparse woody vegetation                              |   | woody vegetation   |
| Score:                            | Average width of natural $1 = 1 = 25^{\circ}$         |   | Average width of natural vegetation                  |   | Average width of natural $vagatation cover > 50^{\circ}$ |
| 11                                | 1 vegetation cover < 25'<br>Impervious surfaces > 25% |   | cover: 25' to 50'<br>Impervious surfaces: 10 - 25%   | 3 | vegetation cover > 50'<br>Impervious surfaces < 10%      |
|                                   | · · · · · · · · · · · · · · · · · · ·                 |   | -  | 3 |  |
| medium                            | Average channel shade < 25%                           | 2 | Average channel shade 25-50%                         |   | Average channel shade > 50%                              |
|                                   | Severe soil erosion potential within<br>riparian area |   | Moderate soil erosion potential within riparian area | 3 | Slight soil erosion potential within<br>riparian area    |
| Sub-totals                        |   | 4 |  | 6 |  |
|                                   | No floodplains or wetlands in                         |   | Few, small floodplains or wetlands                   |   | Multiple or large floodplains or                         |
| Water storage/ flow<br>moderation | riparian area   | 2 | in riparian area                                     |   | wetlands in riparian area                                |
| moucration                        | Located in lower 1/3 of                               |   | Located in middle 1/3 of                             |   | Located in upper 1/3 of                                  |
| Score:                            | 1 subwatershed  |   | subwatershed   |   | subwatershed   |
|                                   | <20% woody vegetation cover                           |   | 20-50% woody vegetation within                       |   | >50% woody vegetation within                             |
| 9                                 | within wetland or floodplain                          |   | wetland or floodplain                                | 3 | wetland or floodplain                                    |
|                                   | High bank or channel alteration                       |   | Moderate bank or channel alteration                  |   | Low bank or channel alteration                           |
| medium                            | (>25% altered)  | 2 | (5-25% altered)                                      |   | (<5% altered)  |
|                                   | Low connectivity to upland                            |   | Moderate connectivity to upland                      |   | High connectivity to upland                              |
|                                   | 1 habitats  |   | habitats   |   | habitats   |
| Sub-totals                        | 2   | 4 |  | 3 |  |
|                                   | No fish identified                                    |   | Potential fish presence                              |   | Fish-bearing stream (ODFW,                               |
| Fish Habitat                      | 1   |   |  |   | ODF or other source)                                     |
| Score:                            | $_0$ Average channel shade < 25%                      | 2 | Average channel shade 25 - 50%                       | 0 | Average channel shade $> 50\%$                           |
| 0                                 | Low large wood recruitment                            |   | Medium large wood recruitment                        |   | High large wood recruitment                              |
| 8                                 | 1 potential   |   | potential  |   | potential  |
|                                   | Barrier(s) preventing juvenile and                    |   | Blockages under some flow                            |   | No fish barriers (any/all crossings                      |
| low                               | adult fish passage                                    | 2 | conditions   |   | by bridge or ford)                                       |
|                                   | High bank or channel alteration                       |   | Moderate bank or channel alteration                  |   | Low bank or channel alteration                           |
|                                   | 0 (>25% altered)                                      | 2 | (5-25% altered)                                      | 0 | (<5% altered)  |
| Sub-totals                        | 2   | 6 |  | 0 |  |
| ****                              | Seasonal surface water                                |   | Permanent surface water                              |   | Permanent surface water                                  |
| Wildlife Habitat                  |   | 2 |  |   | throughout reach   |
| Score:                            | Low habitat diversity                                 | 2 | Moderate habitat diversity                           |   | High habitat diversity                                   |
| 0                                 | High human disturbance                                |   | Moderate human disturbance                           |   | Low human disturbance                                    |
| 8                                 | 1   |   |  |   |  |
| low                               | No contiguous patches 5 acres in                      |   | Contiguous patches 5-10 acres in                     |   | Contiguous patches > 10 acres in                         |
| 1011                              | Low connectivity to upland                            | 2 | size<br>Moderate connectivity to upland              |   | size<br>High connectivity to upland                      |
|                                   | 1 habitats  | 0 | habitats   | 0 | habitats   |
| Sub-totals                        | 2   | 6 | naonatio   | 0 |  |
|                                   | No federal or state listed species                    | Ű | Potential habitat for federal or state               | Ů | Listed federal or state species                          |
| Biodiversity                      | 1   |   | listed species                                       |   | present  |
| Score:                            | 1 No ONHP priority habitats                           |   | Potential ONHP priority habitats                     |   | ONHP priority habitats present*                          |
|                                   | No locally rare species or habitats                   |   | Potential locally rare species or                    |   | Locally rare species or habitats                         |
| 6                                 | 1   |   | habitats present                                     |   | present  |
|                                   | Low native cover (<50% native                         |   | Medium native cover (50 - 90%                        |   | High native cover (>90% native                           |
| low                               | species cover)  | 2 | native species cover)                                |   | species cover)   |
|                                   | 1 High human disturbance                              | 0 | Moderate human disturbance                           | 0 | Low human disturbance                                    |
| Sub-totals                        | 4   | 2 |  | 0 |  |
| Combined Score                    | 42  |   |  |   |  |

# **Riparian Corridor Summary Sheet**

Riparian Site: Rock Creek – Vogel Tributary Riparian Corridor Area: 35 acres Adjacent Wetlands: N/A Adjacent Land Use: Low density residential and farming Riparian Code: R-RO-C Field Maps #: D2 Field Date(s): 3/21/07 Investigators: EL, TB

# **General Description**

Small, north-flowing Rock Creek tributary. Riparian corridor fragmented by roads and development; several stream reaches piped. Year-round spring feeds stream.

# **Riparian Characteristics**

 Stream/reach: Rock Creek – Vogel Tributary
 Gradient: □ low <2% □ mo</td>

 Other features: □ ponds □ wetlands ⊠ springs
 Side slopes: □ <10% □ 10</td>

 Flooding potential □ yes ⊠ no Source:
 Average woody vegetated w

 Fish barriers/impediments: stream partly piped
 Channel shade: □ <25% □</td>

 Large wood features: few snags near confluence
 Channel alteration: □ <5%</td>

 Recruitment potential: ☑ low □ medium □ high
 Notes:

Gradient:  $\Box$  low <2%  $\Box$  mod 2-4%  $\boxtimes$  m/s 4-8%  $\Box$  steep >8% Side slopes:  $\Box$  <10%  $\Box$  10-25%  $\boxtimes$  25-50%  $\Box$  >50% Average woody vegetated width:  $\Box$  <25'  $\boxtimes$  25-50'  $\Box$  >50' Channel shade:  $\Box$  <25%  $\Box$  25-50%  $\boxtimes$  50-75%  $\Box$  75-100% Channel alteration:  $\Box$  <5%  $\Box$  5-25%  $\boxtimes$  >25%

# Vegetation (\*dominant)

| Trees        | Shrubs               | Herbs/Emergents |
|--------------|----------------------|-----------------|
| Douglas fir* | Hazelnut*            | Sword fern*     |
| Red alder    | Snowberry            | Bracken fern    |
|              | Osoberry             |                 |
|              | Vine maple           |                 |
|              | Dull Oregon grape    |                 |
|              | Himalayan blackberry |                 |

#### **Assessment Results**

| Riparian Function             | Rating  |          |          | Comments |
|-------------------------------|---------|----------|----------|----------|
| Water Quality                 | Low     | Medium   | 🛛 🛛 High |          |
| Water Storage/Flow Moderation | Low     | Medium   | 🗖 High   |          |
| Fish Habitat                  | Low     | 🛛 Medium | 🗌 High   |          |
| Wildlife Habitat              | Low Low | Medium   | 🗌 High   |          |
| Biodiversity                  | Low Low | 🗌 Medium | 🗌 High   |          |

# **Restoration/Enhancement/Management Comments:**

Stream corridor is highly degraded and/or piped in areas. Stream daylighting is the primary restoration opportunity, followed by re-meandering of channel and revegetation of disturbed corridors with native tree, shrub and groundcover species (for thermal cover, habitat, species diversity).



# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RO-C



| Function            | Low (1 pt)  | Medium (2 pts)   | High (3 pts)  |
|---------------------|---|--|---|
|                     | Riparian area dominated by sparse                   | Riparian area dominated by herbs or                      | Riparian area dominated by dense                      |
| Water Quality       | herbs or no vegetation                              | sparse woody vegetation                                  | 3 woody vegetation                                    |
| Score:              | Average width of natural                            | Average width of natural vegetation                      | Average width of natural                              |
| 14                  | vegetation cover < 25'<br>Impervious surfaces > 25% | 2 cover: 25' to 50'<br>Impervious surfaces: 10 - 25%     | vegetation cover > 50'<br>3 Impervious surfaces < 10% |
|                     |   |  |   |
| high                | Average channel shade < 25%                         | Average channel shade 25-50%                             | 3 Average channel shade > 50%                         |
|                     | Severe soil erosion potential within                | Moderate soil erosion potential                          | Slight soil erosion potential withi                   |
|                     | riparian area                                       | within riparian area                                     | 3 riparian area                                       |
| Sub-totals          | 0   | 2  | 12  |
| Water storage/ flow | No floodplains or wetlands in                       | Few, small floodplains or wetlands                       | Multiple or large floodplains or                      |
| moderation          | 1 riparian area                                     | in riparian area   | wetlands in riparian area                             |
| Score:              | Located in lower 1/3 of<br>1 subwatershed           | Located in middle 1/3 of subwatershed                    | Located in upper 1/3 of subwatershed                  |
|                     | 20% woody vegetation cover                          | 20-50% woody vegetation within                           | >50% woody vegetation within                          |
| 5                   | 1 within wetland or floodplain                      | wetland or floodplain                                    | wetland or floodplain                                 |
|                     | High bank or channel alteration                     | Moderate bank or channel alteration                      | Low bank or channel alteration                        |
| low                 | 1 (>25%  altered)                                   | (5-25% altered)  | (<5%  altered)  |
|                     | Low connectivity to upland                          | Moderate connectivity to upland                          | High connectivity to upland                           |
|                     | 1 habitats  | habitats   | habitats  |
| Sub-totals          | 5   | 0  | 0   |
| 540-101415          | No fish identified                                  | Potential fish presence                                  | Fish-bearing stream (ODFW,                            |
| Fish Habitat        |   | 2  | ODF or other source)                                  |
| Score:              | 0 Average channel shade < 25%                       | 0 Average channel shade 25 - 50%                         | 3 Average channel shade > 50%                         |
|                     | Low large wood recruitment                          | Medium large wood recruitment                            | High large wood recruitment                           |
| 9                   | 1 potential   | potential  | potential   |
|                     | Barrier(s) preventing juvenile and                  | Blockages under some flow                                | No fish barriers (any/all crossing                    |
| medium              | adult fish passage                                  | 2 conditions   | by bridge or ford)                                    |
|                     | High bank or channel alteration                     | Moderate bank or channel alteration                      | Low bank or channel alteration                        |
|                     | (>25% altered)                                      | $_0$ (5-25% altered)                                     | 0 (<5% altered)                                       |
| Sub-totals          | 2   | 4  | 3   |
|                     | Seasonal surface water                              | Permanent surface water                                  | Permanent surface water                               |
| Wildlife Habitat    | ~ · · · · · · · · · · · · · · · · · · ·             | 2  | throughout reach                                      |
| Score:              | Low habitat diversity                               | 2 Moderate habitat diversity                             | High habitat diversity                                |
|                     | High human disturbance                              | Moderate human disturbance                               | Low human disturbance                                 |
| 8                   | 1   |  |   |
|                     | No contiguous patches 5 acres in                    | Contiguous patches 5-10 acres in                         | Contiguous patches > 10 acres in                      |
| low                 | size  | 2 size   | size  |
|                     | Low connectivity to upland                          | Moderate connectivity to upland                          | High connectivity to upland                           |
|                     | 1 habitats  | 0 habitats   | 0 habitats  |
| Sub-totals          | 2   | 6  | 0   |
| Diadinancity        | No federal or state listed species                  | Potential habitat for federal or state                   | Listed federal or state species                       |
| Biodiversity        |   | listed species   | present   |
| Score:              | 1 No ONHP priority habitats                         | Potential ONHP priority habitats                         | ONHP priority habitats present*                       |
| 6                   | No locally rare species or habitats                 | Potential locally rare species or                        | Locally rare species or habitats                      |
| 6                   |   | habitats present   | present   |
| low                 | Low native cover (<50% native species cover)        | Medium native cover (50 - 90%<br>2 native species cover) | High native cover (>90% native species cover)         |
|                     | 1 High human disturbance                            | 0 Moderate human disturbance                             |   |
|                     | 1 righ human disturbance                            | o invouerate numan disturbance                           | 0 Low human disturbance                               |
| Sub-totals          | 4   | 2  | 0   |

# **Riparian Corridor Summary Sheet**

WINTER BROOK

Riparian Site: Rock Creek – Northwest Tributary Riparian Corridor Area: 61 acres Adjacent Wetlands: RO-D-01, RO-D-02 Adjacent Land Use: Farming with low density residential Riparian Code: R-RO-D Field Maps #: A2, B2 Field Date(s): 3/5/07, 3/6/07 Investigators: EL, TB, ACS

# **General Description**

Broad valley floor at boundary between Clackamas River and Johnson Creek watersheds. Upper Rock Creek tributary lined nearly its entire length by wetlands. Riparian areas largely pastureland; small forest patches to north and south.

# **Riparian Characteristics**

| Other features: 🖾 ponds 🖾 wetlands 🖾 springs<br>Flooding potential 🗋 yes 🖾 no Source:<br>Fish barriers/impediments: culverts, low flow | Gradient: $\boxtimes$ low <2% $\square$ mod 2-4% $\square$ m/s 4-8% $\square$ steep >8%<br>Side slopes: $\square$ <10% $\square$ 10-25% $\square$ 25-50% $\square$ >50%<br>Average woody vegetated width: $\boxtimes$ <25' $\square$ 25-50' $\square$ >50'<br>Channel shade: $\boxtimes$ <25% $\square$ 25-50% $\square$ 50-75% $\square$ 75-100%<br>Channel alteration: $\square$ <5% $\square$ 5-25% $\boxtimes$ >25%<br>Notes: |
|--|---|
|--|---|

# **Vegetation** (\*dominant)

| Trees            | Shrubs                | Herbs/Emergents    |
|------------------|-----------------------|--------------------|
| Red alder*       | Himalayan blackberry* | Reed canarygrass*  |
| Douglas fir      | Snowberry             | Soft rush          |
| Oregon ash       | Rose (exotic)         | Creeping buttercup |
| Black cottonwood |                       | Slough sedge       |
| Black hawthorn   |                       |                    |

#### **Assessment Results**

| <b>Riparian Function</b>      | Rating  |            | Comments |  |
|-------------------------------|---------|------------|----------|--|
| Water Quality                 | Low     | 🛛 Medium 🗌 | High     |  |
| Water Storage/Flow Moderation | Low     | 🛛 Medium 🗌 | High     |  |
| Fish Habitat                  | Low     | Medium     | High     |  |
| Wildlife Habitat              | Low Low | 🗌 Medium 🗌 | High     |  |
| Biodiversity                  | Low Low | Medium     | High     |  |

# **Restoration/Enhancement Comments:**

Potential enhancement measures include:

- Remove noxious species.
- Install streamside plantings of native tree, shrub and groundcover species for thermal cover, habitat, species diversity.
- Oregon ash forest at north end of site may serve as a potential reference site for restoration strategies.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RO-D



| Function            | Low (1 pt)                           |   | Medium (2 pts)                         |   | High (3 pts)                               |
|---------------------|--------------------------------------|---|--|---|--|
|                     | Riparian area dominated by sparse    |   | Riparian area dominated by herbs or    |   | Riparian area dominated by dense           |
| Water Quality       | herbs or no vegetation               | 2 | sparse woody vegetation                |   | woody vegetation                           |
| _                   | Average width of natural             |   | Average width of natural vegetation    |   | Average width of natural                   |
| Score:              | 1 vegetation cover < 25'             |   | cover: 25' to 50'                      |   | vegetation cover > 50'                     |
| 10                  | Impervious surfaces > 25%            |   | Impervious surfaces: 10 - 25%          | 3 | Impervious surfaces < 10%                  |
| medium              | 1 Average channel shade $< 25\%$     |   | Average channel shade 25-50%           |   | Average channel shade > 50%                |
|                     | Severe soil erosion potential within |   | Moderate soil erosion potential        |   | Slight soil erosion potential with         |
|                     | riparian area                        |   | within riparian area                   | 3 | riparian area                              |
| Sub-totals          | 2                                    | 2 |  | 6 |  |
| Water storage/ flow | No floodplains or wetlands in        |   | Few, small floodplains or wetlands     |   | Multiple or large floodplains or           |
| moderation          | riparian area                        |   | in riparian area                       | 3 | wetlands in riparian area                  |
|                     | Located in lower 1/3 of              | · | Located in middle 1/3 of               |   | Located in upper 1/3 of                    |
| Score:              | subwatershed                         |   | subwatershed                           | 3 | subwatershed                               |
|                     | <20% woody vegetation cover          |   | 20-50% woody vegetation within         |   | >50% woody vegetation within               |
| 9                   | 1 within wetland or floodplain       |   | wetland or floodplain                  |   | wetland or floodplain                      |
|                     | High bank or channel alteration      |   | Moderate bank or channel alteration    |   | Low bank or channel alteration             |
| medium              | 1 $(>25\% \text{ altered})$          |   | (5-25% altered)                        |   | (<5%  altered)                             |
|                     | Low connectivity to upland           |   | Moderate connectivity to upland        |   | High connectivity to upland                |
|                     | 1 habitats                           |   | habitats                               |   | habitats                                   |
| a 1 1               |                                      | 0 | naonais                                | ( | labitats                                   |
| Sub-totals          |                                      | 0 |  | 6 |  |
| Fish Habitat        | No fish identified                   |   | Potential fish presence                |   | Fish-bearing stream (ODFW,                 |
|                     | 1                                    |   |  |   | ODF or other source)                       |
| Score:              | 1 Average channel shade $< 25\%$     | 0 | Average channel shade 25 - 50%         | 0 | Average channel shade > 50%                |
|                     | Low large wood recruitment           |   | Medium large wood recruitment          |   | High large wood recruitment                |
| 6                   | 1 potential                          |   | potential                              |   | potential                                  |
|                     | Barrier(s) preventing juvenile and   |   | Blockages under some flow              |   | No fish barriers (any/all crossing         |
| low                 | adult fish passage                   | 2 | conditions                             |   | by bridge or ford)                         |
|                     | High bank or channel alteration      |   | Moderate bank or channel alteration    |   | Low bank or channel alteration             |
|                     | (>25%  altered)                      | 0 | (5-25% altered)                        | 0 | (<5% altered)                              |
| Cult tatala         | 4                                    | 2 |  | 0 |  |
| Sub-totals          |                                      | 2 |  | 0 | Description                                |
| Wildlife Habitat    | Seasonal surface water               | 2 | Permanent surface water                |   | Permanent surface water                    |
|                     | 1 Low habitat diversity              | 2 | Moderate habitat diversity             |   | throughout reach<br>High habitat diversity |
| Score:              |                                      |   |  |   |  |
| 6                   | High human disturbance               |   | Moderate human disturbance             |   | Low human disturbance                      |
| 0                   |                                      |   |  |   |  |
| low                 | No contiguous patches 5 acres in     |   | Contiguous patches 5-10 acres in       |   | Contiguous patches > 10 acres in           |
| 1011                | 1 size                               |   | size                                   |   | size                                       |
|                     | Low connectivity to upland           | 0 | Moderate connectivity to upland        | 0 | High connectivity to upland                |
|                     | l habitats                           | 0 | habitats                               | 0 | habitats                                   |
| Sub-totals          | 4                                    | 2 |  | 0 |  |
| D' 1'               | No federal or state listed species   |   | Potential habitat for federal or state |   | Listed federal or state species            |
| Biodiversity        |                                      |   | listed species                         | 3 | present                                    |
| Score:              | 1 No ONHP priority habitats          |   | Potential ONHP priority habitats       |   | ONHP priority habitats present*            |
| _                   | No locally rare species or habitats  |   | Potential locally rare species or      |   | Locally rare species or habitats           |
| 7                   | 1                                    |   | habitats present                       |   | present                                    |
| _                   | Low native cover (<50% native        |   | Medium native cover (50 - 90%          |   | High native cover (>90% native             |
| low                 | 1 species cover)                     |   | native species cover)                  |   | species cover)                             |
|                     | 1 High human disturbance             | 0 | Moderate human disturbance             | 0 | Low human disturbance                      |
| Sub-totals          | 4                                    | 0 |  | 3 |  |
|                     | 20                                   | L |  |   | <b>ا</b>                                   |
| Combined Score      | 38                                   |   |  |   |  |

**Riparian Corridor Summary Sheet** 

Riparian Site: Rock Creek – Northeast Tributary Riparian Corridor Area: 117 acres Adjacent Wetlands: RO-E-01 Adjacent Land Use: Farming with low density residential Riparian Code: R-RO-E Field Maps #: B3 Field Date(s): 3/5/07, 3/16/07, 4/6/07 Investigators: EL, TB

# **General Description**

Headwater tributary of Rock Creek, with multiple branches extending into buttes. Mixed deciduous and evergreen riparian forests along stream corridor. Large forested wetland in lower (western) segment of site.

# **Riparian Characteristics**

| Flooding potential yes no Source:<br>Fish barriers/impediments: culverts<br>Large wood features: snags and downed logs | Gradient: $\Box$ low <2% $\boxtimes$ mod 2-4% $\Box$ m/s 4-8% $\Box$ steep >8%<br>Side slopes: $\Box$ <10% $\Box$ 10-25% $\boxtimes$ 25-50% $\Box$ >50%<br>Average woody vegetated width: $\Box$ <25' $\Box$ 25-50' $\boxtimes$ >50'<br>Channel shade: $\Box$ <25% $\Box$ 25-50% $\boxtimes$ 50-75% $\Box$ 75-100%<br>Channel alteration: $\boxtimes$ <5% $\Box$ 5-25% $\Box$ >25% |
|--|--|
| Recruitment potential: 🗌 low 🗌 medium 🕅 high   | Notes:   |

# Vegetation (\*dominant)

| Trees            | Shrubs               | Herbs/Emergents |
|------------------|----------------------|-----------------|
| Red alder*       | Hazelnut *           | Sword fern*     |
| Bigleaf maple    | Dewberry             | Trillium        |
| Black cottonwood | Salal                | English ivy     |
| Douglas fir      | Oceanspray           |                 |
| Exotic cherry    | Vine maple           |                 |
|                  | Snowberry            |                 |
|                  | Himalayan blackberry |                 |

#### **Assessment Results**

| Riparian Function             | Rating |          |        | Comments |
|-------------------------------|--------|----------|--------|----------|
| Water Quality                 | Low    | 🗌 Medium | 🛛 High |          |
| Water Storage/Flow Moderation | Low    | 🗌 Medium | 🛛 High |          |
| Fish Habitat                  | Low    | 🗌 Medium | 🛛 High |          |
| Wildlife Habitat              | Low    | Medium   | 🛛 High |          |
| Biodiversity                  | Low    | 🛛 Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

Potential enhancement measures include:

- Streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat corridor, species diversity.
- Removal of noxious species.
- Restoration and revegetation of ditched stream segments.





| Function            | Low (1 pt)                                   |          | Medium (2 pts)                                      |    | High (3 pts)                               |
|---------------------|--|----------|---|----|--|
|                     | Riparian area dominated by sparse            |          | Riparian area dominated by herbs or                 |    | Riparian area dominated by dense           |
| Water Quality       | herbs or no vegetation                       |          | sparse woody vegetation                             | 3  | woody vegetation                           |
| 9                   | Average width of natural                     |          | Average width of natural vegetation                 |    | Average width of natural                   |
| Score:              | vegetation cover < 25'                       | ļ        | cover: 25' to 50'                                   | 3  | vegetation cover > 50'                     |
| 14                  | Impervious surfaces > 25%                    |          | Impervious surfaces: 10 - 25%                       | 3  | Impervious surfaces < 10%                  |
| high                | Average channel shade < 25%                  |          | Average channel shade 25-50%                        | 3  | Average channel shade > 50%                |
|                     | Severe soil erosion potential within         |          | Moderate soil erosion potential                     |    | Slight soil erosion potential within       |
|                     | riparian area                                | 2        | within riparian area                                |    | riparian area                              |
| Sub-totals          | 0  | 2        |   | 12 |  |
| Water storage/ flow | No floodplains or wetlands in                |          | Few, small floodplains or wetlands                  |    | Multiple or large floodplains or           |
| moderation          | riparian area                                |          | in riparian area                                    | 3  | wetlands in riparian area                  |
|                     | Located in lower 1/3 of                      |          | Located in middle 1/3 of                            |    | Located in upper 1/3 of                    |
| Score:              | subwatershed                                 |          | subwatershed  | 3  | subwatershed                               |
|                     | <20% woody vegetation cover                  |          | 20-50% woody vegetation within                      |    | >50% woody vegetation within               |
| 14                  | within wetland or floodplain                 |          | wetland or floodplain                               | 3  | wetland or floodplain                      |
|                     | High bank or channel alteration              |          | Moderate bank or channel alteration                 |    | Low bank or channel alteration             |
| high                | (>25% altered)                               |          | (5-25% altered)                                     | 3  | (<5% altered)                              |
|                     | Low connectivity to upland                   | Τ        | Moderate connectivity to upland                     |    | High connectivity to upland                |
|                     | habitats                                     | 2        | habitats  |    | habitats                                   |
| Sub-totals          | 0  | 2        |   | 12 |  |
|                     | No fish identified                           | †        | Potential fish presence                             |    | Fish-bearing stream (ODFW,                 |
| Fish Habitat        | 1  |          |   |    | ODF or other source)                       |
| Score:              | 0 Average channel shade < 25%                | 0        | Average channel shade 25 - 50%                      | 3  | Average channel shade > 50%                |
|                     | Low large wood recruitment                   | 1        | Medium large wood recruitment                       |    | High large wood recruitment                |
| 12                  | potential                                    |          | potential   | 3  | potential                                  |
|                     | Barrier(s) preventing juvenile and           |          | Blockages under some flow                           |    | No fish barriers (any/all crossings        |
| high                | adult fish passage                           | 2        | conditions  |    | by bridge or ford)                         |
| 0                   | High bank or channel alteration              | <u> </u> | Moderate bank or channel alteration                 |    | Low bank or channel alteration             |
|                     | $_0$ (>25% altered)                          | 0        | (5-25% altered)                                     | 3  | (<5% altered)                              |
| o 1                 |  | <u> </u> |   | 9  | , , , , , , , , , , , , , , , , , , ,      |
| Sub-totals          | 1  | 2        |   | 9  | -  |
| Wildlife Habitat    | Seasonal surface water                       | 2        | Permanent surface water                             |    | Permanent surface water                    |
|                     | Low habitat diversity                        | 2        | Ma danata habitat dimansity                         |    | throughout reach<br>High habitat diversity |
| Score:              | Low habitat diversity                        |          | Moderate habitat diversity                          | 3  |  |
| 13                  | High human disturbance                       |          | Moderate human disturbance                          | 3  | Low human disturbance                      |
| 15                  |  |          |   | 3  |  |
| high                | No contiguous patches 5 acres in             |          | Contiguous patches 5-10 acres in                    | 3  | Contiguous patches > 10 acres in           |
|                     | Low connectivity to upland                   |          | size<br>Moderate connectivity to upland             | 5  | size<br>High connectivity to upland        |
|                     | 0 habitats                                   | 2        | habitats  | 0  | habitats                                   |
| 0.1.4.4.1           | 0  | 4        | nabilats  | 9  | habitats                                   |
| Sub-totals          |  | 4        |   | 9  |  |
| Biodiversity        | No federal or state listed species           |          | Potential habitat for federal or state              | 3  | Listed federal or state species            |
| Score:              | 1 No ONHP priority habitats                  |          | listed species<br>Potential ONHP priority habitats  | 5  | present<br>ONHP priority habitats present* |
| 30016.              |  |          |   |    |  |
| 11                  | No locally rare species or habitats          |          | Potential locally rare species or                   |    | Locally rare species or habitats           |
|                     | Low native cover (<50% native                |          | habitats present                                    |    | present<br>High native cover (>90% native  |
| medium              | Low native cover (<50% native species cover) |          | Medium native cover (50 - 90%                       | 3  | species cover (>90% native                 |
|                     |  | 0        | native species cover)<br>Moderate human disturbance |    | Low human disturbance                      |
|                     |  | 0        | Moderate numan disturbance                          | 3  | Low numan disturbance                      |
| Sub-totals          | 2  | 0        |   | 9  |  |
| Combined Score      | 64   |          |   |    |  |

# Damascus Goal 5/7 Natural Features Inventory Riparian Corridor Summary Sheet



Riparian Site: Rock Creek – Mainstem Riparian Corridor Area: 301 acres Adjacent Wetlands: RO-F-01, RO-F-02 Adjacent Land Use: Low density residential and farming Riparian Code: R-RO-F Field Maps #: C3, C4, B4 Field Date(s): 3/5/07, 3/16/07 Investigators: EL, TB

# **General Description**

Rock Creek mainstem with multiple spring-fed tributaries and intact forested riparian corridors. Fish-bearing stream documented by ODFW; resident cutthroat trout in lower part of this reach. High number of interspersed seeps and springs on the buttes and along streams and wetlands.

# **Riparian Characteristics**

| Other features: I ponds wetlands springsSide slopeFlooding potential yes no Source:Average vFish barriers/impediments: 3 culverts (see notes)Channel sLarge wood features: snags, downed logs, stumpsChannel aRecruitment potential: I low medium highNotes: Cul | □ low $<2\%$ ⋈ mod 2-4% □ m/s 4-8% □ steep >8%<br>es: □ $<10\%$ ⋈ 10-25% □ 25-50% □ >50%<br>woody vegetated width: □ $<25\%$ ⋈ 25-50° □ >50°<br>shade: □ $<25\%$ □ 25-50% ⋈ 50-75% □ 75-100%<br>alteration: □ $<5\%$ ⋈ 5-25% □ >25%<br>alverts at Wiese, Bohna and Tillstrom Roads are<br>h passage barriers |
|--|--|
|--|--|

## **Vegetation** (\*dominant)

| Trees              | Shrubs               | Herbs/Emergents    |  |
|--------------------|----------------------|--------------------|--|
| Red alder*         | Hazelnut *           | Sword fern*        |  |
| Western red cedar* | Vine maple*          | Reed canarygrass   |  |
| Douglas fir        | Dull Oregon grape    | Lady fern          |  |
| Bigleaf maple      | salmonberry          | Pacific waterleaf  |  |
| Black cottonwood   | Osoberry             | Large-leaved avens |  |
| English holly      | Himalayan blackberry | English ivy        |  |

#### Assessment Results

| Riparian Function             | Rating |          |        | Comments |
|-------------------------------|--------|----------|--------|----------|
| Water Quality                 | Low    | 🗌 Medium | 🛛 High |          |
| Water Storage/Flow Moderation | Low    | 🗌 Medium | 🛛 High |          |
| Fish Habitat                  | Low    | 🗌 Medium | 🛛 High |          |
| Wildlife Habitat              | Low    | 🛛 Medium | 🗌 High |          |
| Biodiversity                  | Low    | 🛛 Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

Potential enhancement measures include:

- Streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat corridor, species diversity.
- Removal of noxious species (e.g., blackberry, holly, reed canarygrass)
- Some stream segments may benefit from large wood to stabilize downcutting.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-RO-F



| Function            | Low (1 pt)                           |          | Medium (2 pts)                         |   | High (3 pts)                         |
|---------------------|--------------------------------------|----------|--|---|--------------------------------------|
|                     | Riparian area dominated by sparse    |          | Riparian area dominated by herbs or    |   | Riparian area dominated by dense     |
| Water Quality       | herbs or no vegetation               | 2        | sparse woody vegetation                |   | woody vegetation                     |
| Score:              | Average width of natural             |          | Average width of natural vegetation    |   | Average width of natural             |
|                     | vegetation cover < 25'               | 2        | cover: 25' to 50'                      |   | vegetation cover > 50'               |
| 12                  | Impervious surfaces > 25%            |          | Impervious surfaces: 10 - 25%          | 3 | Impervious surfaces < 10%            |
| high                | Average channel shade < 25%          |          | Average channel shade 25-50%           | 3 | Average channel shade > 50%          |
|                     | Severe soil erosion potential within |          | Moderate soil erosion potential        |   | Slight soil erosion potential within |
|                     | riparian area                        | 2        | within riparian area                   |   | riparian area                        |
| Sub-totals          | 0                                    | 6        |  | 6 |                                      |
| Water storage/ flow | No floodplains or wetlands in        |          | Few, small floodplains or wetlands     |   | Multiple or large floodplains or     |
| moderation          | riparian area                        |          | in riparian area                       | 3 | wetlands in riparian area            |
| _                   | Located in lower 1/3 of              |          | Located in middle 1/3 of               |   | Located in upper 1/3 of              |
| Score:              | subwatershed                         |          | subwatershed                           | 3 | subwatershed                         |
|                     | <20% woody vegetation cover          |          | 20-50% woody vegetation within         |   | >50% woody vegetation within         |
| 13                  | within wetland or floodplain         |          | wetland or floodplain                  | 3 | wetland or floodplain                |
|                     | High bank or channel alteration      |          | Moderate bank or channel alteration    |   | Low bank or channel alteration       |
| high                | (>25% altered)                       | 2        | (5-25% altered)                        |   | (<5% altered)                        |
|                     | Low connectivity to upland           |          | Moderate connectivity to upland        |   | High connectivity to upland          |
|                     | habitats                             | 2        | habitats                               |   | habitats                             |
| Sub-totals          | 0                                    | 4        |  | 9 |                                      |
| ·····               | No fish identified                   |          | Potential fish presence                |   | Fish-bearing stream (ODFW,           |
| Fish Habitat        |                                      |          |  | 3 | ODF or other source)                 |
| Score:              | 0  Average channel shade < 25%       | 0        | Average channel shade 25 - 50%         | 3 | Average channel shade > 50%          |
|                     | Low large wood recruitment           | 1        | Medium large wood recruitment          |   | High large wood recruitment          |
| 12                  | potential                            | 2        | potential                              |   | potential                            |
|                     | Barrier(s) preventing juvenile and   |          | Blockages under some flow              |   | No fish barriers (any/all crossings  |
| high                | adult fish passage                   | 2        | conditions                             |   | by bridge or ford)                   |
|                     | High bank or channel alteration      | 1        | Moderate bank or channel alteration    |   | Low bank or channel alteration       |
|                     | 0 (>25% altered)                     | 2        | (5-25% altered)                        | 0 | (<5% altered)                        |
| Sub-totals          | 0                                    | 6        |  | 6 |                                      |
|                     | Seasonal surface water               |          | Permanent surface water                |   | Permanent surface water              |
| Wildlife Habitat    |                                      | 2        |  |   | throughout reach                     |
| Score:              | Low habitat diversity                | 2        | Moderate habitat diversity             |   | High habitat diversity               |
|                     | High human disturbance               | <u> </u> | Moderate human disturbance             |   | Low human disturbance                |
| 10                  | 1                                    |          |  |   |                                      |
|                     | No contiguous patches 5 acres in     |          | Contiguous patches 5-10 acres in       |   | Contiguous patches > 10 acres in     |
| medium              | size                                 |          | size                                   | 3 | size                                 |
|                     | Low connectivity to upland           |          | Moderate connectivity to upland        |   | High connectivity to upland          |
|                     | 0 habitats                           | 2        | habitats                               | 0 | habitats                             |
| Sub-totals          | 1                                    | 6        |  | 3 |                                      |
| ·····               | No federal or state listed species   | 1        | Potential habitat for federal or state |   | Listed federal or state species      |
| Biodiversity        |                                      |          | listed species                         | 3 | present                              |
| Score:              | 1 No ONHP priority habitats          |          | Potential ONHP priority habitats       |   | ONHP priority habitats present*      |
|                     | No locally rare species or habitats  | 1        | Potential locally rare species or      |   | Locally rare species or habitats     |
| 11                  |                                      |          | habitats present                       | 3 | present                              |
|                     | Low native cover (<50% native        |          | Medium native cover (50 - 90%          |   | High native cover (>90% native       |
| medium              | species cover)                       |          | native species cover)                  | 3 | species cover)                       |
| L.                  | 1 High human disturbance             | 0        | Moderate human disturbance             | 0 | Low human disturbance                |
| Sub-totals          | 2                                    | 0        |  | 9 |                                      |
|                     | I I                                  |          |  |   | -                                    |

# **Riparian Corridor Summary Sheet**

**Riparian Site:** Sunshine Creek **Riparian Corridor Area:** 187 acres **Adjacent Wetlands:** SU-A-01, SU-A-02, SU-A-03 **Adjacent Land Use:** Farming with low density residential **Riparian Code:** R-SU-A **Field Maps #:** A6 **Field Date(s):** 2/22/07, 3/4/07, 3/5/07, 3/6/07 **Investigators:** EL, TB, ACS

# **General Description**

Mainstem of Sunshine Creek with multiple tributaries and associated wetlands. Fish-bearing stream documented by ODFW. Riparian corridor impacted by farming, roads and development. Small patches of riparian forest in upper and lower (north and south) parts of the site.

# **Riparian Characteristics**

| Fish barriers/impediments: $\overline{3+}$ culverts (see notes) | Gradient: $\square$ low <2% $\square$ mod 2-4% $\square$ m/s 4-8% $\square$ steep >8%<br>Side slopes: $\square$ <10% $\square$ 10-25% $\square$ 25-50% $\square$ >50%<br>Average woody vegetated width: $\square$ <25' $\square$ 25-50' $\square$ >50'<br>Channel shade: $\square$ <25% $\square$ 25-50% $\square$ 50-75% $\square$ 75-100%<br>Channel alteration: $\square$ <5% $\square$ 5-25% $\square$ >25%<br>Notes: Culverts at Tillstrom, 242 <sup>nd</sup> , Rugg and 257 <sup>th</sup> Roads |
|---|---|
| Recruitment potential: 🛛 low 🗋 medium 🚺 high                    | Notes: Culverts at Tillstrom, 242 <sup>nd</sup> , Rugg and 257 <sup>nd</sup> Roads documented as problems by ODFW   |

## Vegetation (\*dominant)

| Trees              | Shrubs               | Herbs/Emergents  |
|--------------------|----------------------|------------------|
| Red alder*         | Dull Oregon grape    | Pasture grasses* |
| Western red cedar* | Vine maple*          | Reed canarygrass |
| Oregon ash         | Douglas spirea       | Sword fern       |
| Black cottonwood   | Hazelnut             | Bleeding heart   |
| Bigleaf maple      | Osoberry             | Slough sedge     |
| Douglas fir        | Red elderberry       | English ivy      |
| Pacific willow     | Himalayan blackberry |                  |

#### **Assessment Results**

| Riparian Function             | Rating |          |        | Comments |
|-------------------------------|--------|----------|--------|----------|
| Water Quality                 | Low    | 🛛 Medium | 🗌 High |          |
| Water Storage/Flow Moderation | Low    | 🛛 Medium | 🗌 High |          |
| Fish Habitat                  | 🛛 Low  | 🗌 Medium | 🗌 High |          |
| Wildlife Habitat              | Low    | 🗌 Medium | 🗌 High |          |
| Biodiversity                  | Low    | 🗌 Medium | 🗌 High |          |

# **Restoration/Enhancement Comments:**

Potential enhancement measures include:

- Restore, re-meander and revegetate Sunshine Creek and wetlands in area of large wetland (SU-A-02). Oregon ash/slough sedge wetland at south end may serve as reference site.
- Install streamside plantings of native tree, shrub and groundcover species for thermal cover, soil stabilization, habitat corridor, species diversity.
- Underplant cedars in areas with maturing alder galleries.
- Remove noxious plant species.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-SU-A



| Function            | Low (1 pt)                                      | Medium (2 pts)                         | High (3 pts)  |
|---------------------|---|--|---|
|                     | Riparian area dominated by sparse               | Riparian area dominated by herbs or    | Riparian area dominated by dense                                      |
| Water Quality       | herbs or no vegetation                          | 2 sparse woody vegetation              | woody vegetation  |
| ~                   | Average width of natural                        | Average width of natural vegetation    |   |
| Score:              | vegetation cover < 25'                          | 2 cover: 25' to 50'                    | vegetation cover > 50'  |
| 11                  | Impervious surfaces > 25%                       | Impervious surfaces: 10 - 25%          | 3 Impervious surfaces < 10%   |
| medium              | 1 Average channel shade < 25%                   | Average channel shade 25-50%           | Average channel shade > 50%   |
|                     | Severe soil erosion potential within            | Moderate soil erosion potential        | Slight soil erosion potential with                                    |
|                     | riparian area                                   | within riparian area                   | 3 riparian area   |
| Sub-totals          | 1   | 4                                      | 6   |
| Water storage/ flow | No floodplains or wetlands in                   | Few, small floodplains or wetlands     | Multiple or large floodplains or                                      |
| moderation          | riparian area                                   | in riparian area                       | 3 wetlands in riparian area   |
|                     | Located in lower 1/3 of                         | Located in middle 1/3 of               | Located in upper 1/3 of   |
| Score:              | subwatershed                                    | subwatershed                           | 3 subwatershed  |
|                     | <20% woody vegetation cover                     | 20-50% woody vegetation within         | >50% woody vegetation within  |
| 10                  | 1 within wetland or floodplain                  | wetland or floodplain                  | wetland or floodplain   |
|                     | High bank or channel alteration                 | Moderate bank or channel alteration    | Low bank or channel alteration  |
| medium              | (>25% altered)                                  | 2 (5-25% altered)                      | (<5% altered)   |
|                     | Low connectivity to upland                      | Moderate connectivity to upland        | High connectivity to upland   |
|                     | 1 habitats                                      | habitats                               | habitats  |
| Sub-totals          | 2   | 2 .                                    | 6   |
| ,                   | -<br>No fish identified                         | Potential fish presence                | Fish-bearing stream (ODFW,  |
| Fish Habitat        | No fish lucitificu                              | i otentiai fisti presence              | 3 ODF or other source)  |
| Score:              | Average channel shade < 25%                     | 0 Average channel shade 25 - 50%       | $\begin{array}{c} 0 \\ 0 \\ \end{array} $ Average channel shade > 50% |
| 50010.              |   |  |   |
| 8                   | Low large wood recruitment                      | Medium large wood recruitment          | High large wood recruitment   |
|                     | potential<br>Barrier(s) preventing juvenile and | potential<br>Blockages under some flow | potential<br>No fish barriers (any/all crossing                       |
| law                 | adult fish passage                              | conditions                             | by bridge or ford)  |
| low                 |   |  |   |
|                     | High bank or channel alteration                 | Moderate bank or channel alteration    |   |
|                     | 0 (>25% altered)                                | 2 (5-25% altered)                      | 0 (<5% altered)   |
| Sub-totals          | 3   | 2                                      | 3   |
|                     | Seasonal surface water                          | Permanent surface water                | Permanent surface water   |
| Wildlife Habitat    |   | 2                                      | throughout reach  |
| Score:              | Low habitat diversity                           | 2 Moderate habitat diversity           | High habitat diversity  |
|                     | High human disturbance                          | Moderate human disturbance             | Low human disturbance   |
| 8                   | 1   | •                                      |   |
|                     | No contiguous patches 5 acres in                | Contiguous patches 5-10 acres in       | Contiguous patches > 10 acres in                                      |
| low                 | size  | 2 size                                 | size  |
|                     | Low connectivity to upland                      | Moderate connectivity to upland        | High connectivity to upland   |
|                     | 1 habitats                                      | 0 habitats                             | 0 habitats  |
| Sub-totals          | 2   | 6                                      | 0   |
|                     | No federal or state listed species              | Potential habitat for federal or state | Listed federal or state species                                       |
| Biodiversity        |   | listed species                         | 3 present   |
| Score:              | 1 No ONHP priority habitats                     | Potential ONHP priority habitats       | ONHP priority habitats present*                                       |
|                     | No locally rare species or habitats             | Potential locally rare species or      | Locally rare species or habitats                                      |
| 8                   | 1   | habitats present                       | present   |
|                     | Low native cover (<50% native                   | Medium native cover (50 - 90%          | High native cover (>90% native  |
| low                 | species cover)                                  | 2 native species cover)                | species cover)  |
|                     | 1 High human disturbance                        | 0 Moderate human disturbance           | 0 Low human disturbance   |
| Sub-totals          | 3   | 2                                      | 3   |
| 500-101205          | 5   | 2                                      | 3   |



**Riparian Corridor Summary Sheet** 

Riparian Site: Sunshine Creek – West Tributary Riparian Corridor Area: 110 acres Adjacent Wetlands: N/A Adjacent Land Use: Farming with low density residential Riparian Code: R-SU-B Field Maps #: A5 Field Date(s): 3/5/07, 4/6/07 Investigators: EL, TB

# **General Description**

Sunshine Creek tributary descending from largely intact forest habitats on "North Sunshine" butte. Riparian areas include stream segments with mature cedar forest. Fish-bearing stream documented by ODFW. Red-legged frogs detected within site.

# **Riparian Characteristics**

| Flooding potential yes no Source:<br>Fish barriers/impediments: none, but see R-SU-A<br>Large wood features: large snags, logs, stumps | Gradient: $\Box$ low <2% $\Box$ mod 2-4% $\boxtimes$ m/s 4-8% $\Box$ steep >8%<br>Side slopes: $\Box$ <10% $\Box$ 10-25% $\boxtimes$ 25-50% $\Box$ >50%<br>Average woody vegetated width: $\Box$ <25' $\Box$ 25-50' $\boxtimes$ >50'<br>Channel shade: $\Box$ <25% $\Box$ 25-50% $\Box$ 50-75% $\boxtimes$ 75-100%<br>Channel alteration: $\boxtimes$ <5% $\Box$ 5-25% $\Box$ >25% |
|--|--|
| Recruitment potential: 🗌 low 🗌 medium 🛛 high   | Notes:   |

# Vegetation (\*dominant)

| Trees              | Shrubs            | Herbs/Emergents   |  |
|--------------------|-------------------|-------------------|--|
| Western red cedar* | Salmonberry*      | Sword fern*       |  |
| Red alder          | Vine maple        | Bleeding heart    |  |
| Bigleaf maple      | Red elderberry    | Maidenhair fern   |  |
| Cascara            | Hazelnut          | Lady fern         |  |
| Douglas fir        | Red huckleberry   | Trillium          |  |
| Exotic cherry      | Snowberry         | Pacific waterleaf |  |
| English holly      | Dull Oregon grape | Fringecup         |  |

#### **Assessment Results**

| <b>Riparian Function</b>      | Rating |          | Comments |  |
|-------------------------------|--------|----------|----------|--|
| Water Quality                 | Low    | Medium   | 🛛 High   |  |
| Water Storage/Flow Moderation | Low    | 🛛 Medium | 🗌 High   |  |
| Fish Habitat                  | Low    | Medium   | 🛛 High   |  |
| Wildlife Habitat              | Low    | Medium   | 🛛 High   |  |
| Biodiversity                  | Low    | 🛛 Medium | 🗌 High   |  |

# **Restoration/Enhancement Comments:**

Site is in good condition overall, but could potentially benefit from:

- underplantings of native evergreens in stands dominated by bigleaf maples to diversify habitat.
- removal of noxious species.
- Restore and revegetate stream reach through nursery to the east, including large on-line ponds.

# Damascus Goal 5/7 Natural Features Inventory Riparian Functional Values Assessment – R-SU-B



| Function            | Low (1 pt)  |          | Medium (2 pts)                                     |    | High (3 pts)  |
|---------------------|---|----------|--|----|---|
| Water On ality      | Riparian area dominated by sparse                   |          | Riparian area dominated by herbs or                |    | Riparian area dominated by dense                    |
| Water Quality       | herbs or no vegetation                              |          | sparse woody vegetation                            | 3  | woody vegetation                                    |
| Score:              | Average width of natural                            |          | Average width of natural vegetation                | 3  | Average width of natural                            |
|                     | vegetation cover < 25'<br>Impervious surfaces > 25% |          | cover: 25' to 50'<br>Impervious surfaces: 10 - 25% | _  | vegetation cover > 50'<br>Impervious surfaces < 10% |
| 14                  |   | <b>_</b> | -  | 3  | *   |
| high                | Average channel shade < 25%                         |          | Average channel shade 25-50%                       | 3  | Average channel shade > 50%                         |
|                     | Severe soil erosion potential within                |          | Moderate soil erosion potential                    |    | Slight soil erosion potential within                |
|                     | riparian area                                       | 2        | within riparian area                               |    | riparian area                                       |
| Sub-totals          | 0   | 2        |  | 12 |   |
| Water storage/ flow | No floodplains or wetlands in                       |          | Few, small floodplains or wetlands                 |    | Multiple or large floodplains or                    |
| moderation          | 1 riparian area                                     |          | in riparian area                                   |    | wetlands in riparian area                           |
| _                   | Located in lower 1/3 of                             |          | Located in middle 1/3 of                           |    | Located in upper 1/3 of                             |
| Score:              | subwatershed  |          | subwatershed                                       | 3  | subwatershed  |
|                     | <20% woody vegetation cover                         |          | 20-50% woody vegetation within                     |    | >50% woody vegetation within                        |
| 11                  | 1 within wetland or floodplain                      |          | wetland or floodplain                              |    | wetland or floodplain                               |
|                     | High bank or channel alteration                     |          | Moderate bank or channel alteration                |    | Low bank or channel alteration                      |
| medium              | (>25% altered)                                      |          | (5-25% altered)                                    | 3  | (<5% altered)                                       |
|                     | Low connectivity to upland                          |          | Moderate connectivity to upland                    | •  | High connectivity to upland                         |
|                     | habitats  |          | habitats   | 3  | habitats  |
| Sub-totals          | 2   | 0        |  | 9  |   |
|                     | No fish identified                                  | 1        | Potential fish presence                            |    | Fish-bearing stream (ODFW,                          |
| Fish Habitat        |   |          | -  | 3  | ODF or other source)                                |
| Score:              | $_0$ Average channel shade < 25%                    | 0        | Average channel shade 25 - 50%                     | 3  | Average channel shade > 50%                         |
|                     | Low large wood recruitment                          |          | Medium large wood recruitment                      |    | High large wood recruitment                         |
| 14                  | potential   |          | potential  | 3  | potential   |
|                     | Barrier(s) preventing juvenile and                  |          | Blockages under some flow                          |    | No fish barriers (any/all crossings                 |
| high                | adult fish passage                                  | 2        | conditions   |    | by bridge or ford)                                  |
|                     | High bank or channel alteration                     |          | Moderate bank or channel alteration                |    | Low bank or channel alteration                      |
|                     | 0 (>25% altered)                                    | 0        | (5-25% altered)                                    | 3  | (<5% altered)                                       |
| Sub-totals          | 0   | 2        |  | 12 |   |
| 540-101415          | Seasonal surface water                              | ┿┷       | Desmonant surface suctor                           | 12 | Permanent surface water                             |
| Wildlife Habitat    | Seasonal surface water                              | 2        | Permanent surface water                            |    | throughout reach                                    |
| Score:              | Low habitat diversity                               |          | Moderate habitat diversity                         |    | High habitat diversity                              |
| Score.              |   | 2        |  |    |   |
| 12                  | High human disturbance                              | 2        | Moderate human disturbance                         |    | Low human disturbance                               |
|                     | No contiguous patches 5 acres in                    | +        | Contiguous patches 5-10 acres in                   |    | Contiguous patches > 10 acres in                    |
| high                | size  |          | size   | 3  | size  |
| 0                   | Low connectivity to upland                          | +        | Moderate connectivity to upland                    |    | High connectivity to upland                         |
|                     | 0 habitats  | 0        | habitats   | 3  | habitats  |
| Sub-totals          | 0   | 6        |  | 6  |   |
|                     | No federal or state listed species                  | ╉┷       | Potential habitat for federal or state             | -  | Listed federal or state species                     |
| Biodiversity        | The federal of state listed species                 | 1        | listed species                                     | 3  | present   |
| Score:              | 1 No ONHP priority habitats                         | +        | Potential ONHP priority habitats                   | -  | ONHP priority habitats present*                     |
|                     | No locally rare species or habitats                 | +        | Potential locally rare species or                  |    | Locally rare species or habitats                    |
| 10                  | 1   |          | habitats present                                   |    | present   |
|                     | Low native cover (<50% native                       | 1        | Medium native cover (50 - 90%                      |    | High native cover (>90% native                      |
| medium              | species cover)                                      | 1        | native species cover)                              | 3  | species cover)                                      |
|                     |   | 2        | Moderate human disturbance                         | 0  | Low human disturbance                               |
|                     | 0 High human disturbance                            | 2        | Introductate indinan distantiance                  |    | LOW muman distarbance                               |
| Sub-totals          | 0 High human disturbance                            | 2        |  | 6  |   |

Habitat Site: Badger Creek and Upland Habitat Overall Site Size: 121 acres Associated Wetlands: BA-A-01 Associated Riparian Corridors: R-BA-A Habitat Code:BA-AField Maps #:A7Field Date(s):3/5/07, 3/16/07Investigators:EL, TB

## **General Description**

Badger Creek, tributary to Johnson Creek; red alder dominated riparian corridor, fragmented by roads and low density residential development. Stream, wetlands, and small ponds provide aquatic habitat. Limited upland deciduous and mixed forest habitats. High bird use with good connection to forested butte to southwest.

| [                                     |                                      |                                       |             | Score    | Score    |  |
|---------------------------------------|--------------------------------------|---------------------------------------|-------------|----------|----------|--|
|                                       | Component                            | Range of Val                          | ues         | Existing | Enhanced | Comments                               |
|                                       | Seasonality and                      | None Moderate                         | Good        | 3        | 3        |  |
|                                       | Quantity                             | 0 4                                   | 8           |          |          |  |
| a a a a a a a a a a a a a a a a a a a | Quality                              | Poor Moderate                         | Good        | 2        | 2        |  |
| E                                     |                                      | 0 4                                   | 8           |          |          |  |
| WATER                                 | Proximity to cover                   |                                       | Adjacent    | 2        | 2        |  |
|                                       | Diversity (streams                   | 0 4<br>Zero One Two                   | 8<br>Three+ | 4        | A        |  |
|                                       | Diversity (streams, ponds, wetlands) | Zero One Two<br>0 4 6                 | 1 hree+     | 4        | 4        |  |
|                                       | Variety                              | Low Medium                            | High        | 2        | 3        | Plant berry- or fruit-bearing natives, |
|                                       | variety                              | 0 4                                   | 8           | 2        | ,        | or species attracting insects          |
| 9                                     | Quantity                             | Low Medium                            | High        | 2        | 3        | See above                              |
| FOOD                                  | 2                                    | 0 4                                   | 8           | -        | 5        |  |
| L.                                    | Seasonality                          | Low Limited                           | Yr-round    | 1        | 3        | See above                              |
|                                       | •                                    | 0 4                                   | 8           |          |          |  |
|                                       | Structural diversity                 | Low Medium                            | High        | 2        | 4        | Plant evergreen and deciduous trees    |
| 8                                     |                                      | 0 4                                   | 8           |          |          | shrubs to build multi-tiered canopy    |
| COVER                                 | Variety and seasonality              | Low Medium                            | High        | 1        | 3        | Plant evergreens to provide winter     |
| 8                                     |                                      | 0 4                                   | 8           |          |          | cover                                  |
|                                       | Nesting and denning                  | Low Medium                            | High        | 1        | I        |  |
|                                       | sites<br>Habitat modification,       | 0 2<br>High Medium                    | 4           |          |          |  |
| HUMAN<br>DISTURB                      | structures, etc.                     | 1000000000000000000000000000000000000 | Low<br>8    | 2        | 2        |  |
| N N                                   | Direct human disturb.                | High Medium                           | Low         | 1        | 1        |  |
| H                                     | (people, traffic, pets)              |                                       | 6           | *        |          |  |
|                                       | Wildlife                             | Not rare Somewhat                     |             | 0        | 0        |  |
| RARE<br>ATURES                        |                                      | 0 2                                   | 4           |          |          |  |
| L RE                                  | Flora                                | Not rare Somewhat                     | Very        | 0        | 0        |  |
| RARE                                  |                                      | 0 2                                   | 4           |          |          |  |
| EE.                                   | Rarity of habitat type               | Not rare Somewhat                     | Very        | 0        | 0        |  |
|                                       |                                      | 0 2                                   | 4           |          |          |  |
| S                                     | Connectivity                         | Low Medium                            | High        | 1        | 1        |  |
| ANT<br>ATURES                         | Damad mad ald                        | 0 4                                   | 8           |          |          |  |
|                                       | Downed wood, old                     | Low Medium<br>0 4                     | High<br>8   | 0        | 0        |  |
| DRTANT<br>F FEATU                     | stumps, snags<br>% nonnative herbs   | 100% 80% 50% 1                        |             | 1        | 1        | English ivy                            |
| L FE                                  | 70 nonnative neros                   |                                       |             | ł        | 1        | Linguisti ivy                          |
| IMPC                                  | % nonnative shrubs                   | 100% 75% 50% 25%                      |             | 1        | 1        | Blackberry                             |
|                                       | / nonnau v o onnaoo                  | 0 1 2 3                               | 4 5 6       | •        |          | Diackoonly                             |
| H                                     | % nonnative canopy                   |                                       | % 0         | 3        | 3        |  |
|                                       |                                      | 0 2 3                                 | 3 6         | Existing |          |  |
| -                                     |                                      |                                       |             |          | Enhanced |  |
| TOTA                                  | AL SCORE:                            |                                       |             | 29       | 37       |  |

WINTER BROOK

Habitat Site: Clackamas River Corridor Habitats Overall Site Size: 273 acres Associated Wetlands: CL-A-01, CL-A-02, CL-A-03 Associated Riparian Corridors: R-CL-A Habitat Code: CL-A Field Maps #: F1, G1, G2 Field Date(s): 3/1/07, 3/14/07 & 4/4/07 Investigators: EL, TB

## **General Description**

Diverse Clackamas River floodplain habitats with bottomland cottonwood forest, large wetland complex, island habitat. Mature mixed forest upland habitats climb the canyon walls extending across Oregon 224. These habitats include pockets of basalt cliffs and remnant Oak Savanna habitat.

| []                             |  |  |              | Score         | Score           |  |
|--------------------------------|--|--|--------------|---------------|-----------------|--|
|                                | Component  | Range of Value   |              | Existing      | Enhanced        | Comments   |
|                                | Seasonality and<br>Quantity                      | None Moderate<br>0 4   | Good<br>8    | 8             | 8               |  |
| ER                             | Quality  |  | Good<br>8    | 4             | 4               | DEQ – Water quality limited  |
| WATER                          | Proximity to cover                               |  | djacent<br>8 | 6             | 6               |  |
|                                | Diversity (streams, ponds, wetlands)             | Zero One Two<br>0 4 6  | Three+<br>8  | 8             | 8               | Multiple wetlands, Clackamas River, streams  |
|                                | Variety  | Low Medium<br>0 4  | High<br>8    | 7             | 7               |  |
| FOOD                           | Quantity   | Low Medium<br>0 4  | High<br>8    | 7             | 7               |  |
|                                | Seasonality                                      | 0 4  | r-round<br>8 | 7             | 7               |  |
| R                              | Structural diversity                             | Low Medium<br>0 4  | High<br>8    | 6             | 6               |  |
| COVER                          | Variety and seasonality                          | Low Medium<br>0 4  | High<br>8    | 7             | 7               |  |
|                                | Nesting and denning sites                        | Low Medium<br>0 2  | High<br>4    | 4             | 4               |  |
| <b>HUMAN</b><br><b>DISTURB</b> | Habitat modification, structures, etc.           | High Medium<br>0 4   | Low<br>8     | 5             | 5               |  |
| NUH                            | Direct human disturb.<br>(people, traffic, pets) | High Medium<br>0 3   | Low<br>6     | 5             | 5               |  |
| RARE<br>ATURES                 | Wildlife   | Not rare Somewhat<br>0 2   | Very<br>4    | 4             | 4               | Chinook, Steelhead, Coho; Bald cagle,<br>pileated woodpecker, band tailed<br>pigeon, bank swallow, red legged frog |
| RARE                           | Flora  | Not rare Somewhat<br>0 2   | Very<br>4    | 0             | 0               |  |
| FE/                            | Rarity of habitat type                           | Not rare Somewhat<br>0 2   | Very<br>4    | 4             | 4               | Complex bottomland forest, oak savanna habitat, basalt cliffs  |
| RES                            | Connectivity                                     | Low Medium<br>0 4  | High<br>8    | 6             | 6               |  |
| RTANT<br>FEATURES              | Downed wood, old stumps, snags                   | Low Medium<br>0 4  | High<br>8    | 4             | 4               |  |
| ORT/<br>VT FE/                 | % nonnative herbs                                | 100%         80%         50%         10%           0         1         2         3 | 6            | 2             | 2 ·             |  |
| IMPO<br>BITAT                  | % nonnative shrubs                               | 100% 75% 50% 25% 10<br>0 1 2 3 4   | 56           | 2             | 2               |  |
| HA                             | % nonnative canopy                               | >10% 5% 3%<br>0 2 3  | 0<br>6       | 5<br>Existing | 2               |  |
| TOT                            | TOTAL SCORE:                                     |  |              |               | Enhanced<br>101 |  |

WINTER



Habitat Site: Clackamas River Uplands Overall Site Size: 244 acres Associated Wetlands: N/A Associated Riparian Corridors: N/A

#### Habitat Code: CL-B Field Maps #: F1, F2, G1, G2 Field Date(s): 3/14/07 Investigators: EL, TB

#### **General Description**

Large block of shrub/grassland area on hillside surrounded by forested edge. Provides forage and limited cover habitat for terrestrial wildlife, and serves as a linkage between habitats in Clackamas River and Rock Creek watersheds. Site contains Douglas fir dominated forest with blackberry, Scot's broom and other shrubs and grasses.

|                                |                                      |                                | Score    | Score    |  |
|--------------------------------|--------------------------------------|--------------------------------|----------|----------|--|
|                                | Component                            | Range of Values                | Existing | Enhanced | Comments   |
|                                | Seasonality and                      | None Moderate Good             | 0        | 0        |  |
|                                | Quantity                             | 0 4 8                          |          |          |  |
| <b>X</b>                       | Quality                              | Poor Moderate Good             | 0        | 0        |  |
| WATER                          |                                      | 0 4 8                          |          |          |  |
| WA                             | Proximity to cover                   | None Near Adjacent             | 0        | 0        |  |
|                                | Discuster (students                  | 0 4 8<br>Zero One Two Three+   | 0        | 0        |  |
|                                | Diversity (streams, ponds, wetlands) | Zero One Two Three+<br>0 4 6 8 | 0        | U        |  |
|                                | Variety                              | Low Medium High                | 2        | 4        | Plant berry- or fruit-bearing natives, or                                  |
|                                | variety                              | 0 4 8                          |          | -        | species attracting insects   |
| 9                              | Quantity                             | Low Medium High                | 2        | 4        | See above  |
| FOOD                           | <b>Z</b>                             | 0 4 8                          | _        |          |  |
| j i zu                         | Seasonality                          | Low Limited Yr-round           | 2        | 4        | See above  |
|                                | •                                    | 0 4 8                          |          |          |  |
|                                | Structural diversity                 | Low Medium High                | 2        | 4        | Plant evergreen & deciduous trees  |
| 2                              |                                      | 0 4 8                          |          |          | shrubs to build multi-tiered canopy  |
| VE                             | Variety and seasonality              | Low Medium High                | 1        | 2        | Plant evergreens to provide winter cover                                   |
| COVER                          |                                      | 0 4 8                          |          |          |  |
|                                | Nesting and denning                  | Low Medium High                | 1        | 2        | Plant evergreen and deciduous trees<br>shrubs to build multi-tiered canopy |
|                                | sites<br>Habitat modification,       | 0 2 4<br>High Medium Low       | · · · ·  | 1        | sinuos to bund mani-tiered canopy  |
| <b>HUMAN</b><br><b>DISTURB</b> | structures, etc.                     | High Medium Low<br>0 4 8       | 1        | 1        |  |
| N E                            | Direct human disturb.                | High Medium Low                | 3        | 3        |  |
| H                              | (people, traffic, pets)              | 0 $3$ $6$                      | 5        |          |  |
| 1                              | Wildlife                             | Not rare Somewhat Very         | 0        | 0        |  |
| ES                             |                                      | 0 2 4                          |          |          |  |
| LR UR                          | Flora                                | Not rare Somewhat Very         | 0        | 0        | · · ·  |
| RARE                           |                                      | 0 2 4                          |          |          |  |
| E.                             | Rarity of habitat type               | Not rare Somewhat Very         | 0        | 0        |  |
|                                |                                      | 0 2 4                          |          |          |  |
| S                              | Connectivity                         | Low Medium High                | 5        | 5        |  |
| ANT<br>ATURES                  | Downed wood, old                     | 0 4 8<br>Low Medium High       | <u> </u> |          |  |
| E E                            |                                      | Low Medium High<br>0 4 8       | 2        | 2        |  |
| ORTANT<br>T FEATU              | stumps, snags<br>% nonnative herbs   | 100% 80% 50% 10% 0%            | 2        | 2        |  |
| L F F                          | 70 Hostilative fields                | $0 \ 1 \ 2 \ 3 \ 6$            |          |          |  |
|                                | % nonnative shrubs                   | 100% 75% 50% 25% 10% 5% 0      | 1        | 1        | Blackberry, Scots broom, English ivy                                       |
| IM<br>BIT                      |                                      | 0 1 2 3 4 5 6                  |          |          |  |
| HA                             | % nonnative canopy                   | >10% 5% 3% 0                   | 3        | 3        |  |
| <sup>144</sup>                 |                                      | 0 2 3 6                        |          |          |  |
|                                | Laconn                               |                                | Existing | Enhanced |  |
| 1017                           | AL SCORE:                            |                                | 27       | 37       | I  |

WINTER BROOK



| Habitat Site: Clackamas River Tributary Habitat |
|---|
| Overall Site Size: 78 acres                     |
| Associated Wetlands: N/A                        |
| Associated Riparian Corridors: N/A              |

Habitat Code:CL-CField Maps #:G2Field Date(s):3/14/07Investigators:EL, TB

# **General Description**

Site includes the upper reach of small unnamed tributary to Clackamas River, and is degraded by nearby residential development, with some reaches piped. Limited Douglas fir, alder and cottonwood forest habitat.

|                  |                                     |   | Score          | Score    |  |
|------------------|-------------------------------------|---|----------------|----------|--|
|                  |                                     |   | Existing       | Enhanced | Comments                               |
|                  | Seasonality and                     | None Moderate Good                              | 4              | 4        |  |
|                  | Quantity                            | 0 4 8   |                |          |  |
| WATER            | Quality                             | Poor Moderate Good                              | 3              | 3        |  |
|                  | Duquimity to gaven                  | 0 4 8<br>None Near Adjacent                     |                | 3        |  |
| N I              | Proximity to cover                  | None Near Adjacent<br>0 4 8                     | 3              | 3        |  |
|                  | Diversity (streams,                 | Zero One Two Three+                             | 4              | 4        |  |
|                  | ponds, wetlands)                    | 0 4 6 8   |                |          |  |
|                  | Variety                             | Low Medium High                                 | 2              | 4        | Plant berry- or fruit-bearing natives, |
|                  | Varioty                             | $\begin{array}{c} 1 \\ 0 \\ 4 \\ 8 \end{array}$ | -              | T        | or species attracting insects          |
|                  | Quantity                            | Low Medium High                                 | 3              | 3        |  |
| FOOD             | <b>Z</b>                            | 0 4 8   |                | , v      |  |
| <u> </u>         | Seasonality                         | Low Limited Yr-round                            | 4              | 4        |  |
|                  | 2                                   | 0 4 8   |                |          |  |
|                  | Structural diversity                | Low Medium High                                 | 2              | 5        | Plant evergreen & deciduous trees      |
|                  | -                                   | 0 4 8   |                |          | shrubs to build multi-tiered canopy    |
| COVER            | Variety and seasonality             | Low Medium High                                 | 2              | 4        | Plant evergreens to provide winter     |
| ġ                |                                     | 0 4 8   |                |          | cover                                  |
|                  | Nesting and denning                 | Low Medium High                                 | 1              | 1        |  |
|                  | sites                               | 0 2 4   |                |          |  |
| HUMAN<br>DISTURB | Habitat modification,               | High Medium Low                                 | 2              | 3        | Repair stream                          |
| I M              | structures, etc.                    | 0 4 8   |                |          | <b>NI</b> 07                           |
| P S              | Direct human disturb.               | High Medium Low                                 | 0              | 2        | Plant stream buffer                    |
|                  | (people, traffic, pets)<br>Wildlife | 0 <u>3</u> <u>6</u>                             |                |          |  |
| S.               | whame                               | Not rare Somewhat Very<br>0 2 4                 | 0              | 0        |  |
| E E              | Flora                               | Not rare Somewhat Very                          | 0              | 0        |  |
| RARE             | 1 101 a                             | 0 2 4   |                |          |  |
| R<br>FEA         | Rarity of habitat type              | Not rare Somewhat Very                          | 0              | 0        |  |
| L L              | rainity of substate type            | 0 2 4   | Ŭ              | Ů        |  |
|                  | Connectivity                        | Low Medium High                                 | 2              | 2        | 1                                      |
| ANT<br>ATURES    | 2                                   | 0 4 8   |                |          |  |
|                  | Downed wood, old                    | Low Medium High                                 | 1              | 1        |  |
|                  |                                     | 0 4 8   |                |          |  |
| E.               | % nonnative herbs                   | 100% 80% 50% 10% 0%                             | 3              | 3        |  |
| 1 Š E            |                                     | 0 1 2 3 6                                       |                |          |  |
| IMP(             | % nonnative shrubs                  |   | -              | 3        |  |
|                  | 0/                                  | 0 1 2 3 4 5 6<br>>10% 5% 3% (                   |                |          |  |
| HA               | % nonnative canopy                  | 0 2 3 6   |                | 3        |  |
| l                |                                     |   |                | Enhanced | · · · · · · · · · · · · · · · · · · ·  |
| TOT              | AL SCORE:                           |   | Existing<br>42 | 52       |  |
|                  |                                     |   |                | 1        | L                                      |

# Wildlife Habitat Assessment Summary Sheet

Habitat Site: Deep Creek and Upland Habitats Overall Site Size: 292 acres Associated Wetlands: N/A Associated Riparian Corridors: N/A

Habitat Code: DE-A Field Maps #: G4, G5 Field Date(s): 4/6/07 Investigators: EL, TB

# **General Description**

Diverse wildlife habitat above Clackamas River and Deep Creek confluence. Habitats include mature mixed forest riparian corridors, mature mixed and evergreen upland forests, basalt cliffs, small cobble talus.

|                   |  |   | Score         | Score          |   |
|-------------------|--|---|---------------|----------------|---|
|                   | Component                              | Range of Values   | Existing      | Enhanced       | Comments  |
|                   | Seasonality and Quantity               | None Moderate Good<br>0 4 8   | 4             | 4              |   |
| ER                | Quality                                | Poor Moderate Good<br>0 4 8   | 5             | 5              | · · · · · · · · · · · · · · · · · · ·   |
| WATER             | Proximity to cover                     | None Near Adjacent<br>0 4 8   | 6             | 6              | · · · ·   |
|                   | Diversity (streams, ponds, wetlands)   | Zero One Two Three+<br>0 4 6 8  | 4             | 4              |   |
|                   | Variety                                | Low Medium High<br>0 4 8  | 6             | 6              |   |
| FOOD              | Quantity                               | Low Medium High<br>0 4 8  | 5             | 5              |   |
|                   | Seasonality                            | Low Limited Yr-round<br>0 4 8   | 6             | 6              |   |
| 2                 | Structural diversity                   | Low Medium High<br>0 4 8  | 6             | 6              |   |
| COVER             | Variety and seasonality                | Low Medium High<br>0 4 8  | 6             | 6              |   |
|                   | Nesting and denning sites              | Low Medium High<br>0 2 4  | 4             | 4              |   |
| HUMAN<br>DISTURB  | Habitat modification, structures, etc. | High Medium Low<br>0 4 8  | 5             | 5              |   |
|                   |  | High Medium Low<br>0 3 6  | 3             | 3              |   |
| E<br>RES          | Wildlife                               | Not rare Somewhat Very<br>0 2 4   | 4             | 4              | Olive sided flycatcher, pileated<br>woodpecker, band tailed pigeon, bald<br>eagle, red-legged frog, salamanders |
| RARE<br>FEATURES  | Flora                                  | Not rare Somewhat Very<br>0 2 4   | 0             | 0              |   |
| L<br>L            | Rarity of habitat type                 | Not rare Somewhat Very<br>0 2 4   | l             | 1              | Old growth elements   |
| RES               | Connectivity                           | Low Medium High<br>0 4 8  | 6             | 6              |   |
| RTANT<br>FEATURES | Downed wood, old<br>stumps, snags      | Low Medium High<br>0 4 8  | 6             | 6              |   |
| ORT.<br>TFE       | % nonnative herbs                      | 100% 80% 50% 10% 0%<br>0 1 2 3 6  | 3             | 3              |   |
| IMPOI<br>BITAT    | % nonnative shrubs                     | 100%         75%         50%         25%         10%         5%         0           0         1         2         3         4         5         6 | 4             | 4              |   |
| HA                | % nonnative canopy                     | >10% 5% 3% 0<br>0 2 3 6   | 3<br>Existing | 3              |   |
| тот               | TOTAL SCORE:                           |   |               | Enhanced<br>87 |   |





Habitat Site: Kelley Creek/North Butler Butte Habitats Overall Site Size: 425 acres Associated Wetlands: N/A Associated Riparian Corridors: N/A Habitat Code: KE-A Field Maps #: A3, A4 Field Date(s): 3/5/07, 4/6/07 Investigators: EL, TB

#### **General Description**

Largely intact, mixed forest habitat dominated by Douglas fir, bigleaf maple and red alder. Headwaters of Kelley Creek, with multiple tributaries; mixed riparian forest habitats. Good wildlife linkages to forested buttes north, south, and east.

| [                  |  |                          |              | Score          | Score          |  |
|--------------------|--|--------------------------|--------------|----------------|----------------|--|
|                    | Component  | Range of Valu            |              | Existing       | Enhanced       | Comments   |
|                    | Seasonality and<br>Quantity                      | None Moderate<br>0 4     | Good<br>8    | 4              | 4              |  |
| ER                 | Quality  | Poor Moderate<br>0 4     | Good<br>8    | 7              | 7              | Water quality (bug) data: "slightly impaired"                                      |
| WATER              | Proximity to cover                               |                          | djacent<br>8 | 6              | 6              |  |
|                    | Diversity (streams, ponds, wetlands)             |                          | Three+<br>8  | 4              | 4              |  |
|                    | Variety  | Low Medium<br>0 4        | High<br>8    | 6              | 6              |  |
| FOOD               | Quantity   | Low Medium<br>0 4        | High<br>8    | 6              | 6              |  |
|                    | Seasonality                                      | Low Limited Y<br>0 4     | r-round<br>8 | 6              | 6              |  |
| R                  | Structural diversity                             | Low Medium<br>0 4        | High<br>8    | 6              | 6              |  |
| COVER              | Variety and seasonality                          | Low Medium<br>0 4        | High<br>8    | 6              | 6              |  |
|                    | Nesting and denning sites                        | Low Medium<br>0 2        | High<br>4    | 4              | 4              |  |
| HUMAN<br>DISTURB   | Habitat modification, structures, etc.           | High Medium<br>0 4       | Low<br>8     | 6              | 6              |  |
|                    | Direct human disturb.<br>(people, traffic, pets) | High Medium<br>0 3       | Low<br>6     | 4              | 4              |  |
| SES                | Wildlife   | Not rare Somewhat<br>0 2 | Very<br>4    | 4              | 4              | Pileated woodpecker, olive sided fly-<br>catcher, red-legged frog, cutthroat trout |
| RARE               | Flora  | Not rare Somewhat<br>0 2 | Very<br>4    | 0              | 0              |  |
| FE,                | Rarity of habitat type                           | Not rare Somewhat<br>0 2 | Very<br>4    | 0              | 0              |  |
| RES                | Connectivity                                     | Low Medium<br>0 4        | High<br>8    | 6              | 6              |  |
| ORTANT<br>FEATURES | Downed wood, old stumps, snags                   | Low Medium<br>0 4        | High<br>8    | 4              | 4              |  |
| PORT/              | % nonnative herbs                                |                          | 6            | 3              | 3              |  |
| IMP(               | % nonnative shrubs                               |                          | 56           | 4              | 4              |  |
| НА                 | % nonnative canopy                               | >10% 5% 3%<br>0 2 3      | 0<br>6       | 5              | 5              |  |
| TOT                | AL SCORE:  |                          |              | Existing<br>91 | Enhanced<br>91 |  |



| ſ | Habitat Site: Noyer Creek Basin Habitats                | Habitat Code:  | NO-A                             |
|---|---|----------------|----------------------------------|
|   | Overall Site Size: 1326 acres                           | Field Maps #:  | D5                               |
|   | Associated Wetlands: NO-A-01, NO-1-02, NO-A-03, NO-A-04 | Field Date(s): | 3/3/07, 3/13/07, 3/16/07, 4/4/07 |
|   | Associated Riparian Corridors: R-NO-A                   | Investigators: | EL, TB                           |

#### **General Description**

Multiple large and significant wetland habitats within site. Upper Noyer Creek riparian habitats degraded by farming and development. Limited upland forests in western and eastern parts of site.

|                  |                           |                              | Score    | Score          |  |
|------------------|---------------------------|------------------------------|----------|----------------|--|
|                  | Component                 | Range of Values              | Existing | Enhanced       | Comments                               |
|                  | Seasonality and           | None Moderate Good           | 6        | 6              |  |
|                  | Quantity                  | 0 4 8                        |          | _              |  |
| ы<br>Ж           | Quality                   | Poor Moderate Good           | 2        | 2              |  |
| WATER            | 0                         | 0 4 8                        |          |                | -                                      |
| M                | Proximity to cover        | None Near Adjacent           | 4        | 4              |  |
|                  | Diversity (streams,       | 0 4 8<br>Zero One Two Three+ | 6        | 6              |  |
|                  | ponds, wetlands)          | 10 $4$ $6$ $8$               | 0        | 0              |  |
|                  | Variety                   | Low Medium High              | 4        | 5              | Plant berry- or fruit-bearing natives, |
|                  | varioty                   | 0  4  8                      |          |                | or species attracting insects          |
|                  | Quantity                  | Low Medium High              | 4        | 4              |  |
| FOOD             | <b>L</b>                  | 0 4 8                        |          |                |  |
|                  | Seasonality               | Low Limited Yr-round         | 5        | 5              |  |
|                  | •                         | 0 4 8                        |          |                |  |
|                  | Structural diversity      | Low Medium High              | 3        | 3              |  |
| 2                |                           | 0 4 8                        |          |                |  |
| COVER            | Variety and seasonality   | Low Medium High              | 3        | 4              | Plant evergreens to provide winter     |
| 8                | NI (1 1 1 1               |                              |          |                | cover                                  |
|                  | Nesting and denning sites | Low Medium High<br>0 2 4     | 2        | 2              |  |
|                  | Habitat modification,     | High Medium Low              | 3        | 5              | Repair stream                          |
| HUMAN<br>DISTURB | structures, etc.          | 0  4  8                      |          |                |  |
| I N L            | Direct human disturb.     | High Medium Low              | 2        | 4              | Plant stream buffer                    |
| E E              | (people, traffic, pets)   | 0 3 6                        |          |                |  |
|                  | Wildlife                  | Not rare Somewhat Very       | 0        | 0              |  |
| RARE             |                           | 0 2 4                        |          |                |  |
| 85               | Flora                     | Not rare Somewhat Very       | 0        | 0              |  |
| RARE             |                           | 0 2 4                        |          | · · · · ·      |  |
| E E              | Rarity of habitat type    | Not rare Somewhat Very       | 0        | 0              |  |
|                  | Cannactivity              | 0 2 4<br>Low Medium High     | 1 2      | 2              |  |
| ES               | Connectivity              | Low Medium High<br>0 4 8     | 3        | 3              |  |
| ANT<br>ATURES    | Downed wood, old          | Low Medium High              | 3        | 3              |  |
| NE               | stumps, snags             | 0  4  8                      |          |                |  |
| ORTANT<br>FEATU  | % nonnative herbs         | 100% 80% 50% 10% 0%          | 2        | 3              | Remove ivy, reed canarygrass, other    |
| 10 I             |                           | 0 1 2 3 6                    |          |                | invasives                              |
| IMP(             | % nonnative shrubs        | 100% 75% 50% 25% 10% 5% 0    | 4        | 4              |  |
|                  |                           | 0 1 2 3 4 5 6                |          |                |  |
| HA               | % nonnative canopy        | >10% 5% 3% 0<br>0 2 3 6      | 4        | 4              | 1                                      |
|                  |                           |                              |          | Enhanced       |  |
| TOT              | TOTAL SCORE:              |                              |          | Enhanced<br>67 |  |
|                  |                           |                              | 60       | L              | I                                      |

Wildlife Habitat Assessment Summary Sheet

Habitat Site: Richardson Creek - West Habitat **Overall Site Size:** 173 acres Associated Wetlands: RI-A-01 Associated Riparian Corridors: R-RI-A

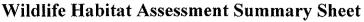
Habitat Code: RI-A Field Maps #: F2, F3 Field Date(s): 3/14/07, 4/4/07 Investigators: EL, TB

# **General Description**

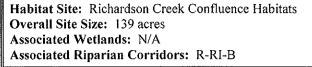
Riparian habitat partly fragmented by road and development. Douglas fir forest patches near stream. Stream drops into an intact forested ravine before joining Richardson Creek in core habitat area (see R-RI-A).

|                   | Component                          | Range of Values                                      | Score<br>Existing | Score<br>Enhanced | Comments                                  |
|-------------------|------------------------------------|--|-------------------|-------------------|---|
|                   | Seasonality and                    | None Moderate Good                                   | 5                 | 5                 | Comments                                  |
|                   | Quantity                           | 0 4 8  |                   |                   |   |
| <u>x</u> [        | Quality                            | Poor Moderate Good                                   | 4                 | 4                 |   |
| T                 |                                    | 0 4 8  |                   |                   |   |
| WATER             | Proximity to cover                 | None Near Adjacent<br>0 4 8                          | 3                 | 3                 |   |
| -                 | Diversity (streams,                | Zero One Two Three+                                  | 4                 | 4                 |   |
|                   | ponds, wetlands)                   | 0 4 6 8  | -7                | -                 |   |
|                   | Variety                            | Low Medium High                                      | 4                 | 5                 | Plant berry- or fruit-bearing natives, or |
|                   | -                                  | 0 4 8  |                   |                   | species attracting insects                |
| FOOD              | Quantity                           | Low Medium High                                      | 3                 | 4                 | See above                                 |
| E S               | 0 14                               | 0 4 8  |                   |                   | 0 1                                       |
|                   | Seasonality                        | Low Limited Yr-round<br>0 4 8                        | 3                 | 4                 | See above                                 |
|                   | Structural diversity               | Low Medium High                                      | 3                 | 4                 | Plant evergreen & deciduous trees &       |
| ~                 |                                    | 0  4  8  | 5                 |                   | shrubs to build multi-tiered canopy       |
| COVER             | Variety and seasonality            | Low Medium High                                      | 3                 | 4                 | Plant evergreens to provide winter cover  |
| l Ó               |                                    | 0 4 8  |                   |                   |   |
|                   | Nesting and denning                | Low Medium High                                      | 2                 | 2                 |   |
|                   | sites<br>Habitat modification,     | 0 2 4<br>High Medium Low                             | 2                 | 4                 | Repair stream, especially at South end    |
| HUMAN             | structures, etc.                   |  | 2                 | 4                 | Repair stream, especially at South end    |
| I N L             | Direct human disturb.              | High Medium Low                                      | 2                 | 2                 |   |
| EE                | (people, traffic, pets)            | 0 3 6  |                   |                   |   |
| s                 | Wildlife                           | Not rare Somewhat Very                               | 0                 | 0                 |   |
| RARE              | 2° 1                               | 0 2 4  | ~                 |                   |   |
| RARE              | Flora                              | Not rare Somewhat Very<br>0 2 4                      | 0                 | 0                 |   |
| FEA               | Rarity of habitat type             | Not rare Somewhat Very                               | 0                 | 0                 |   |
| <u>ت</u>          | Rainy of habiai type               | 0 2 4  |                   | ľ                 |   |
| S                 | Connectivity                       | Low Medium High                                      | 1                 | l                 |   |
| ANT<br>ATURES     | -                                  | 0 4 8  |                   |                   |   |
|                   | Downed wood, old                   | Low Medium High                                      | 1                 | 1                 |   |
| TA<br>EA          | stumps, snags<br>% nonnative herbs | 0 4 8  | <u> </u>          |                   |   |
| ORTANT<br>T FEATU | 70 normative neros                 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2                 | 2                 |   |
| I A E             | % nonnative shrubs                 | 100% 75% 50% 25% 10% 5% 0                            | 2                 | 2                 |   |
| IMP(              |                                    | 0 1 2 3 4 5 6  |                   |                   |   |
| HA                | % nonnative canopy                 | >10% 5% 3% 0<br>0 2 3 6                              | 3                 | 3                 |   |
|                   |                                    |  | Existing          | Enhanced          |   |
| TOT               | AL SCORE:                          |  | 47                | Enhanced<br>54    |   |
| L                 |                                    |  | L                 | 1                 | E   |





ě,



#### Habitat Code: RI-B Field Maps #: E3, F3, F4 Field Date(s): 3/14/07, 3/29/07 Investigators: EL, TB

# **General Description**

Confluence of Richardson Creek's main stem and north branch. One of highest quality riparian and upland habitats within the City. Mixed forested uplands with continuous connection to riparian corridors.

|                  |                         |                         | Score         | Score    |                                      |
|------------------|-------------------------|-------------------------|---------------|----------|--------------------------------------|
|                  | Component               | Range of Values         | Existing      | Enhanced | Comments                             |
| l                | Seasonality and         | None Moderate Good      |               | 7        |                                      |
|                  | Quantity                | 0 4 8                   |               |          |                                      |
| 2                | Quality                 | Poor Moderate Good      | 6             | 6        |                                      |
| WATER            |                         | 0 4 8                   |               |          |                                      |
| X I              | Proximity to cover      | None Near Adjace        | nt 7          | 7        |                                      |
| ~                |                         | 0 4 8                   |               |          |                                      |
|                  | Diversity (streams,     | Zero One Two Thre       | e+ 6          | 6        |                                      |
| <u> </u>         | ponds, wetlands)        | 0 4 6 8                 |               |          |                                      |
|                  | Variety                 | Low Medium Hig          | 1 6           | 6        |                                      |
|                  |                         | 0 4 8                   |               |          |                                      |
| FOOD             | Quantity                | Low Medium Hig          | 1 7           | 7        |                                      |
| E                | 0 It                    | 0 4 8                   | 1 6           |          |                                      |
|                  | Seasonality             | Low Limited Yr-rou      | nd 6          | 6        |                                      |
|                  | Structural diversity    | 0 4 8<br>Low Medium Hig | 1 6           | 6        |                                      |
|                  | Structural unversity    | 0 4 8                   |               | 0        |                                      |
| B B B            | Variety and seasonality | Low Medium Hig          | 1 6           | · 6      |                                      |
| COVER            | variety and seasonanty  | 0  4  8                 |               | 0        |                                      |
| Ŭ                | Nesting and denning     | Low Medium Hig          | 1 4           | 4        |                                      |
|                  | sites                   | 0 2 4                   |               |          |                                      |
| ze               | Habitat modification,   | High Medium Low         | 6             | 6        |                                      |
| HUMAN<br>DISTURB | structures, etc.        | 0 4 8                   |               |          |                                      |
| 55               | Direct human disturb.   | High Medium Low         | 4             | 4        |                                      |
| Ξ                | (people, traffic, pets) | 0 3 6                   |               |          |                                      |
| S                | Wildlife                | Not rare Somewhat Very  | 4             | 4        | Steelhead, Coho; band tailed pigeon, |
| RARE             |                         | 0 2 4                   |               |          | pileated woodpecker, red legged frog |
| 25               | Flora                   | Not rare Somewhat Very  | 0             | 0        |                                      |
| RARE             |                         | 0 2 4                   |               |          |                                      |
| E I              | Rarity of habitat type  | Not rare Somewhat Ver   | 0             | 0        |                                      |
|                  | <u>a</u>                | 0 2 4                   |               |          |                                      |
| S                | Connectivity            | Low Medium Hig<br>0 4 8 | n 6           | 6        |                                      |
| ANT<br>ATURES    | Downed wood, old        | Low Medium Hig          | 4             | 4        |                                      |
| <b>S</b> E       | stumps, snags           | 0 4 8                   | 1 4           | 4        |                                      |
| ORTANT<br>FEATU  | % nonnative herbs       | 100% 80% 50% 10% 0%     | 5 3           | 3        |                                      |
| L F F            | 70 nonnative neros      |                         |               | 5        |                                      |
| M A              | % nonnative shrubs      | 100% 75% 50% 25% 10% 5% |               | 4        |                                      |
| IMP(<br>BITA)    | / nonnau/ o onraco      | 0 1 2 3 4 5             | 6             |          |                                      |
|                  | % nonnative canopy      | >10% 5% 3%              | 0 3           | 3        |                                      |
| H                |                         | 0 2 3                   | 6<br>Existing |          |                                      |
|                  |                         |                         |               | Enhanced |                                      |
| TOTA             | AL SCORE:               |                         | 95            | 95       | <u> </u>                             |

WINTER

Habitat Site: Richardson Creek Northwest Habitat Overall Site Size: 386 acres Associated Wetlands: RI-C-01, RI-C-02 Associated Riparian Corridors: R-RI-C

Habitat Code: RI-C Field Maps #: E3 Field Date(s): 3/9/07, 3/21/07, 3/29/07 Investigators: EL, TB

#### **General Description**

Richardson Creek tributary with significant stream-associated wetland habitats. Riparian habitat fragmented by roads, pasture and development. Small areas of grassland and forest habitat outside riparian/wetland corridor.

| [ · · · · ·       |  |                             |               | Score         | Score          |  |
|-------------------|--|-----------------------------|---------------|---------------|----------------|--|
|                   | Component  | Range of Val                | ues           | Existing      | Enhanced       | Comments   |
|                   | Seasonality and<br>Quantity                      | None Moderate<br>0 4        | Good<br>8     | 4             | 4              | Intermittent stream and wetland  |
| rer               | Quality  | Poor Moderate<br>0 4        | Good<br>8     | 4             | 4              | Bug data – "moderately impaired"<br>downstream                                       |
| WATER             | Proximity to cover                               | None Near<br>0 4            | Adjacent<br>8 | 4             | 4              |  |
|                   | Diversity (streams, ponds, wetlands)             | Zero One Two<br>0 4 6       | Three+<br>8   | 6             | 6              | · · · · · · · · · · · · · · · · · · ·  |
|                   | Variety  | Low Medium<br>0 4           | High<br>8     | 4             | 5              | Plant berry- or fruit-bearing natives, or species attracting insects                 |
| FOOD              | Quantity   | Low Medium<br>0 4           | High<br>8     | 3             | 5              | See above  |
|                   | Seasonality                                      | 0 4                         | Yr-round<br>8 | 3.            | 5              | See above  |
| R                 | Structural diversity                             | Low Medium<br>0 4           | High<br>8     | 2             | 4              | Plant evergreen & deciduous trees &<br>shrubs to build multi-tiered canopy<br>layers |
| COVER             | Variety and seasonality                          | Low Medium<br>0 4           | High<br>8     | 2             | 4              | Plant evergreens to provide winter cover   |
|                   | Nesting and denning sites                        | Low Medium<br>0 2           | High<br>4     | 2             | 2              |  |
| HUMAN<br>DISTURB  | Habitat modification, structures, etc.           | High Medium<br>0 4          | Low<br>8      | 2             | 4              | Restore stream meanders  |
| HUN               | Direct human disturb.<br>(people, traffic, pets) | High Medium<br>0 3          | Low<br>6      | 3             | 3              |  |
| KES               | Wildlife   | Not rare Somewhat<br>0 2    | Very<br>4     | 0             | 0              |  |
| RARE              | Flora  | Not rare Somewhat<br>0 2    | Very<br>4     | 0             | 0              |  |
| FE/               | Rarity of habitat type                           | Not rare Somewhat<br>0 2    | Very<br>4     | 0             | 0              |  |
| RES               | Connectivity                                     | Low Medium<br>0 4           | High<br>8     | l             | 1              |  |
| RTANT<br>FEATURES | Downed wood, old stumps, snags                   | Low Medium<br>0 4           | High<br>8     | 1             | 1              |  |
| ORT<br>T FE       | % nonnative herbs                                | 100% 80% 50% 1<br>0 1 2     | 3 6           | ]             | 2              | Remove invasives   |
| IMPOI<br>BITAT    | % nonnative shrubs                               | 100% 75% 50% 25%<br>0 1 2 3 | 4 5 6         | 3             | 4              | Remove invasives   |
| HA                | % nonnative canopy                               |                             | % 0<br>3 6    | 3<br>Existing | 3              |  |
| τοτ               | TOTAL SCORE:                                     |                             |               |               | Enhanced<br>61 |  |



Habitat Site: Richardson Creek North Habitat Overall Site Size: 609 acres Associated Wetlands: RI-D-01, RI-D-02 Associated Riparian Corridors: R-RI-D

 Habitat Code:
 RI-D

 Field Maps #:
 D4, E3, E4

 Field Date(s):
 3/21/07, 3/29/07, 4/4/07

 Investigators:
 EL, TB

# **General Description**

Richardson Creek tributary through Damascus town center. Riparian habitats generally fragmented. Upland forest habitat limited and located primarily on steeper slopes at north end of site.

| [                                     |   |   | Score          | Score    |   |
|---------------------------------------|---|---|----------------|----------|---|
|                                       | Component                                 | Range of Values                                       | Existing       | Enhanced | Comments                                  |
|                                       | Seasonality and                           | None Moderate Good                                    | 4              | 4        |   |
|                                       | Quantity                                  | 0 4 8   |                |          |   |
| a a a a a a a a a a a a a a a a a a a | Quality                                   | Poor Moderate Good                                    | 4              | 4        |   |
| WATER                                 |   | 0 4 8   |                |          |   |
| NA<br>NA                              | Proximity to cover                        | None Near Adjacent                                    | 4              | 4        |   |
|                                       | Discussion (stars and                     | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ |                |          |   |
|                                       | Diversity (streams, ponds, wetlands)      | Zero One Two Three+<br>0 4 6 8                        | 6              | 6        |   |
|                                       | Variety                                   | Low Medium High                                       | 4              | 5        | Plant berry- or fruit-bearing natives, or |
|                                       | Variety                                   | 10 4 8  | "              | 5        | species attracting insects                |
| FOOD                                  | Quantity                                  | Low Medium High                                       | 4              | 6        | See above                                 |
|                                       | Quantity                                  | 0  4  8   | -              | Ū        |   |
| L.                                    | Seasonality                               | Low Limited Yr-round                                  | 4              | 5        | See above                                 |
|                                       | ·····                                     | 0 4 8   |                |          |   |
|                                       | Structural diversity                      | Low Medium High                                       | 3              | 5        | Plant evergreen & deciduous trees &       |
|                                       | -   | 0 4 8   |                |          | shrubs to build multi-tiered canopy       |
| COVER                                 | Variety and seasonality                   | Low Medium High                                       | 4              | 5        | Plant evergreens to provide winter cover  |
| õ                                     |   | 0 4 8   |                |          |   |
|                                       | Nesting and denning                       | Low Medium High                                       | 2              | 3        | Plant evergreen & deciduous trees &       |
|                                       | sites                                     | 0 2 4   |                |          | shrubs to build multi-tiered canopy       |
| HUMAN<br>DISTURB                      | Habitat modification,                     | High Medium Low                                       | 4              | 4        |   |
| N D                                   | structures, etc.<br>Direct human disturb. | 0 4 8<br>High Medium Low                              |                |          |   |
| <b>H</b>                              | (people, traffic, pets)                   | High Medium Low<br>0 3 6                              | 2              | 2        |   |
|                                       | Wildlife                                  | Not rare Somewhat Very                                | 1              |          | Bufflehead                                |
| ES                                    | W Hume                                    | 0 2 4   | k              | 1        | Builleneau                                |
| E E                                   | Flora                                     | Not rare Somewhat Very                                | 0              | 0        |   |
| RARE                                  |   |   | Ň              | Ŷ        |   |
| FEA                                   | Rarity of habitat type                    | Not rare Somewhat Very                                | 0              | 0        | ······                                    |
|                                       | <i>y y</i> 1                              | 0 2 4   |                |          |   |
| S                                     | Connectivity                              | Low Medium High                                       | 2              | 2        |   |
| ANT<br>ATURES                         |   | 0 4 8   |                |          |   |
| ĘĒ                                    | Downed wood, old                          | Low Medium High                                       | 2              | 2        |   |
|                                       | stumps, snags                             | 0 4 8   |                |          |   |
| RI                                    | % nonnative herbs                         | 100% 80% 50% 10% 0%                                   | 2              | 3        | Remove invasive herbs                     |
| IMPORTANT<br>BITAT FEATU              |   | 0 1 2 3 6   | <u>_</u>       |          | D 1.11                                    |
| E E                                   | % nonnative shrubs                        | 100% 75% 50% 25% 10% 5% 0<br>0 1 2 3 4 5 6            | 2              | 4        | Remove hackberry                          |
| AB I                                  | % nonnative canopy                        | >10% 5% 3% 0  | 3              | 3        |   |
| HA                                    | norman o ounopy                           | 0 2 3 6   |                |          |   |
|                                       |   |   |                | Enhanced |   |
| TOT                                   | AL SCORE:                                 |   | Existing<br>57 | 67       |   |
| L                                     |   |   | A              |          |   |

WINTER BROOK



Habitat Site: Richardson Creek - Northeast Habitat Overall Site Size: 399 acres Associated Wetlands: RI-E-01 Associated Riparian Corridors: R-RI-E Habitat Code: RI-E Field Maps #: D4, E4 Field Date(s): 3/16/07, 3/29/07 Investigators: EL, TB

# **General Description**

A largely farmed and developed habitat site with minimal forest cover along stream. One stream-associated wetland habitat.

| [                 |                           |                             | Score       | Score    |   |
|-------------------|---------------------------|-----------------------------|-------------|----------|---|
| ļ,                | Component Range of Values |                             | Existing    | Enhanced | Comments                                  |
|                   | Seasonality and           | None Moderate Good          | 4           | 4        |   |
|                   | Quantity                  | 0 4 8<br>Poor Moderate Good | 2           | 2        |   |
| WATER             | Quality                   | $0 \qquad 4 \qquad 8$       | 2           | 2        |   |
| Ē                 | Proximity to cover        | None Near Adjacent          | 2           | 2        |   |
| Ă                 | I forming to cover        | 0  4  8                     | - <i>La</i> | 4        |   |
|                   | Diversity (streams,       | Zero One Two Three+         | 6           | 6        |   |
|                   | ponds, wetlands)          | 0 4 6 8                     | Ŷ           | Ŭ        |   |
|                   | Variety                   | Low Medium High             | 1           | 3        | Plant berry- or fruit-bearing natives, or |
|                   |                           | 0 4 8                       |             |          | species attracting insects                |
|                   | Quantity                  | Low Medium High             | 1           | 3        | See above                                 |
| FOOD              | · · ·                     | 0 4 8                       |             |          |   |
| _                 | Seasonality               | Low Limited Yr-round        | 1           | 3        | See above                                 |
|                   |                           | 0 4 8                       |             |          |   |
|                   | Structural diversity      | Low Medium High             | 1           | 2        | Plant evergreen & deciduous trees &       |
| <b>N</b>          |                           | 0 4 8                       | -           |          | shrubs to build multi-tiered canopy       |
|                   | Variety and seasonality   | Low Medium High             | 1           | 4        | Plant evergreens to provide winter cover  |
| COVER             | Nexting and doubles       | 0 4 8                       | 1           |          | Plant evergreen & deciduous trees &       |
| -                 | Nesting and denning sites | Low Medium High<br>0 2 4    |             | 2        | shrubs to build multi-tiered canopy       |
|                   | Habitat modification,     | High Medium Low             | 1 1         | 2        | Repair stream                             |
| HUMAN<br>DISTURB  | structures, etc.          | 0  4  8                     |             | 2        |   |
| N E               | Direct human disturb.     | High Medium Low             | 2           | 2        |   |
| E H               | (people, traffic, pets)   | 0 3 6                       |             |          |   |
|                   | Wildlife                  | Not rare Somewhat Very      | 0           | 0        |   |
| RARE<br>ATURES    |                           | 0 2 4                       |             |          |   |
| R B               | Flora                     | Not rare Somewhat Very      | 0           | 0        |   |
|                   |                           | 0 2 4                       |             |          |   |
| E                 | Rarity of habitat type    | Not rare Somewhat Very      | 0           | 0        |   |
|                   |                           | 0 2 4                       |             |          |   |
| S                 | Connectivity              | Low Medium High<br>0 4 8    | 1           | 2        | Plant stream corridor                     |
| ANT<br>ATURES     | Downed wood, old          |                             | 0           | 0        |   |
| I Z E             | stumps, snags             | Low Medium High<br>0 4 8    |             | 0        |   |
| ORTANT<br>T FEATU | % nonnative herbs         | 100% 80% 50% 10% 0%         | 1           | 2        | Remove ivy                                |
| L B L             | 70 holinative heres       | 0 1 2 3 6                   |             |          |   |
| , IMP(<br>BITA    | % nonnative shrubs        | 100% 75% 50% 25% 10% 5% 0   | 2           | 2        |   |
| BI                |                           | 0 1 2 3 4 5 6               |             |          | ·   |
| HA                | % nonnative canopy        | >10% 5% 3% 0                | 2           | 2        |   |
|                   |                           | 0 2 3 6                     | Existing    |          |   |
| Tom               |                           |                             |             | Enhanced |   |
| 1017              | AL SCORE:                 |                             | 29          | 43       | [   |

Habitat Site: Richardson Creek East Habitat Overall Site Size: 342 acres Associated Wetlands: N/A Associated Riparian Corridors: R-RI-F

# Habitat Code:RI-FField Maps #:F4, F5Field Date(s):3/29/07Investigators:EL, TB

#### **General Description**

High bird use with good connection to forested Clackamas River canyon to south. Riparian habitats partly fragmented by roads, farming and development. Mixed upland forest is scattered throughout site; shrub and grasslands provide some connective habitat.

|                   | · · ·                                  |   | Score         | Score          |   |
|-------------------|--|---|---------------|----------------|---|
|                   | Component                              | Range of Values   | Existing      | Enhanced       | Comments  |
|                   | Seasonality and<br>Quantity            | None Moderate Good<br>0 4 8   | 3             | 3              |   |
| WATER             | Quality                                | Poor Moderate Good<br>0 4 8   | 3             | 3              |   |
| WA'               | Proximity to cover                     | None Near Adjacent<br>0 4 8   | 3             | 3              |   |
|                   | Diversity (streams, ponds, wetlands)   | Zero One Two Three+<br>0 4 6 8  | 4             | 4              |   |
|                   | Variety                                | Low Medium High<br>0 4 8  | 2             | 3              | Plant berry- or fruit-bearing natives, or species attracting insects    |
| FOOD              | Quantity                               | Low Medium High<br>0 4 8  | 1             | 3              | See above   |
|                   | Seasonality                            | Low Limited Yr-round<br>0 4 8   | 2             | 3              | See above   |
| ×                 | Structural diversity                   | Low Medium High<br>0 4 8  | 2             | 3              | Plant evergreen & deciduous trees & shrubs to build multi-tiered canopy |
| COVER             | Variety and seasonality                | Low Medium High<br>0 4 8  | 2             | 4              | Plant evergreens to provide winter cover                                |
|                   | Nesting and denning sites              | Low Medium High<br>0 2 4  | 1             | 2              | Plant evergreen & deciduous trees & shrubs to build multi-tiered canopy |
| HUMAN             | Habitat modification, structures, etc. | High Medium Low<br>0 4 8  | 2             | 3              | Repair stream   |
| NUH               |  | High Medium Low<br>0 3 6  | 1             | 1              |   |
| KES               | Wildlife                               | Not rare Somewhat Very<br>0 2 4   | 0             | 0              |   |
| RARE              | Flora                                  | Not rare Somewhat Very<br>0 2 4   | 0             | 0              |   |
| FE                | Rarity of habitat type                 | Not rare Somewhat Very<br>0 2 4   | 0             | 0              |   |
| RES               | Connectivity                           | Low Medium High<br>0 4 8  | 1             | 2              | Plant stream corridor   |
| ANT<br>ATURES     |  | Low Medium High<br>0 4 8  | 2             | 2              |   |
| ORTANT<br>T FEATU |  | 100% 80% 50% 10% 0%<br>0 1 2 3 6  | 1             | 2              | Remove invasives  |
| IMP(              | % nonnative shrubs                     | 100%         75%         50%         25%         10%         5%         0           0         1         2         3         4         5         6 | 2             | 2              |   |
| HA                | % nonnative canopy                     | >10% 5% 3% 0<br>0 2 3 6   | 2<br>Existing | 2              | s<br>   |
| тот               | TOTAL SCORE:                           |   |               | Enhanced<br>45 | 1   |

WINTER

Habitat Site: Rock Creek - South Tributary Habitats **Overall Site Size:** 445 acres Associated Wetlands: RO-A-01, RO-A-02, RO-A-03 Associated Riparian Corridors: R-RO-A

Habitat Code: RO-A Field Maps #: F1, F2 Field Date(s): 3/9/07, 3/14/07, 4/4/07 Investigators: EL, TB

#### **General Description**

Lower Rock Creek tributary with multiple and diverse wetlands connected to forest habitats. Mature upland forests connected to forested riparian corridors. Nearby residential development and roads fragment habitat areas.

| [        |                         | 1                           |                       | Score    | Score    |   |
|----------|-------------------------|-----------------------------|-----------------------|----------|----------|---|
|          | Component               | Range of Va                 |                       | Existing | Enhanced | Comments  |
|          | Seasonality and         | None Moderate               | Good                  | 7        | 7        | Perennial streams   |
|          | Quantity                | 0 4                         | 8                     |          |          |   |
| 2        | Quality                 | Poor Moderate               |                       | 4        | 4        |   |
| WATER    |                         | 0 4                         | 8                     |          |          |   |
| A N      | Proximity to cover      | None Near                   | Adjacent              | 5        | 5        | No cover at pond  |
| 2        |                         | 0 4                         | 8                     |          |          |   |
|          | Diversity (streams,     | Zero One Tw                 |                       | 8        | 8        |   |
|          | ponds, wetlands)        | 0 4 6                       | -                     | -        |          |   |
|          | Variety                 | Low Medium                  | High                  | 5        | 5        | Blackberry dominated areas  |
|          |                         | 0 4                         | 8                     |          |          |   |
| FOOD     | Quantity                | Low Medium                  | High                  | 4        | 5        | Plant berry- or fruit-bearing natives, or                               |
| E        | 0                       | 0 4                         | 8                     |          |          | species attracting insects  |
|          | Seasonality             | Low Limited                 | Yr-round              | 4        | 4        |   |
|          | 04                      | 0 4                         | 8                     |          | ~        | Direct survey 0. do : do set do se 0.                                   |
|          | Structural diversity    | Low Medium                  | High                  | 4        | 5        | Plant evergreen & deciduous trees & shrubs to build multi-tiered canopy |
| COVER    | Variety and seasonality | 0 4<br>Low Medium           | 8<br>8                | 4        | 5        | Plant evergreens to provide winter cover                                |
|          | variety and seasonality | 1000 Medium $0$             | High<br>8             | 4        | 5        | Fiant evergreens to provide writer cover                                |
| U U      | Nesting and denning     | Low Medium                  | High                  | 3        | 3        |   |
|          | sites                   | 0 2                         | 4                     |          | 5        |   |
| 7 8      | Habitat modification,   | High Medium                 | Low                   | 4        | 4        | · · · · ·   |
| N N      | structures, etc.        | 0 4                         | 8                     |          |          |   |
| HUMAN    | Direct human disturb.   | High Medium                 | Low                   | 1        | 1        |   |
| E        | (people, traffic, pets) | 0 3                         | 6                     |          | _        |   |
|          | Wildlife                | Not rare Somewhat           | at Very               | 3        | 3        | Pileated woodpecker, bufflehead, red                                    |
| E E      |                         | 0 2                         | 4                     |          |          | legged frog   |
| C R      | Flora                   | Not rare Somewhat           | at Very               | 0        | 0        |   |
| RARE     |                         | 0 2                         | 4                     |          |          |   |
| EE       | Rarity of habitat type  | Not rare Somewhat           | at Very               | 0        | 0        |   |
| _        |                         | 0 2                         | 4                     |          |          |   |
| Ś        | Connectivity            | Low Medium                  | High                  | 2        | 2        |   |
| ANT      |                         | 0 4                         | 8                     |          |          |   |
| 토민       | Downed wood, old        | Low Medium                  | High                  | 4        | 4.       |   |
|          | stumps, snags           | 0 4                         | 8                     |          |          |   |
| RT.      | % nonnative herbs       | 100% 80% 50%                |                       | 3        | 4        | Remove invasives  |
| PO F     | A/                      | 0 1 2                       |                       |          |          | <b>.</b>  |
| IMPC     | % nonnative shrubs      | 100% 75% 50% 25%<br>0 1 2 3 |                       | 2        | 3        | Remove invasives  |
|          | % nonnative canopy      |                             | $\frac{4 5 6}{3\% 0}$ | 4        | 4        | English holly   |
| Ĥ        | 70 norman vo canopy     | 0 2                         | 3 6                   | +        | +        |   |
| <u> </u> |                         |                             |                       | Existing | Enhanced |   |
| Тот      | AL SCORE:               |                             |                       | 71       | 76       |   |
| L        |                         |                             |                       | L        | 1        | £   |





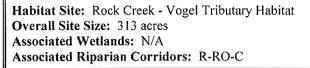
Habitat Site: Rock Creek - Sunnyside Tributary Habitats Overall Site Size: 246 acres Associated Wetlands: RO-B-01 Associated Riparian Corridors: R-RO-A

#### Habitat Code: RO-B Field Maps #: E2 Field Date(s): 3/21/07, 3/29/07 Investigators: EL, TB

#### **General Description**

Rock Creek tributary with ash swale riparian habitat; degraded elsewhere. Small forested upland habitat patches.

|                  | Component Range of Values                        |  | Score<br>Existing | Score<br>Enhanced | Comments  |
|------------------|--|--|-------------------|-------------------|---|
|                  | Seasonality and                                  | None Moderate Good                                   | 5                 | 5                 | Comments  |
|                  | Quantity   | 0 4 8  |                   |                   |   |
| <b>R</b>         | Quality  | Poor Moderate Good<br>0 4 8                          | 4                 | 4                 |   |
| WATER            | Proximity to cover                               | 0 4 8<br>None Near Adjacent                          | 3                 | 3                 |   |
| M.               | Troxinity to cover                               | 0  4  8  | 5                 | J                 |   |
|                  | Diversity (streams,                              | Zero One Two Three+                                  | 6                 | 6                 |   |
|                  | ponds, wetlands)                                 | 0 4 6 8  |                   |                   |   |
|                  | Variety  | Low Medium High<br>0 4 8                             | 3                 | 4                 | Plant berry- or fruit-bearing natives, or species attracting insects    |
| FOOD             | Quantity   | Low Medium High                                      | . 2               | 4                 | See above   |
| 12               | Cassanality                                      | 0 4 8<br>Low Limited Yr-round                        | 3                 | 4                 | See above   |
|                  | Seasonality                                      | 0 4 8  | 3                 | 4                 |   |
| ~                | Structural diversity                             | Low Medium High<br>0 4 8                             | 2                 | 4                 | Plant evergreen & deciduous trees & shrubs to build multi-tiered canopy |
| COVER            | Variety and seasonality                          | Low Medium High<br>0 4 8                             | 3                 | 4                 | Plant evergreens to provide winter cover                                |
|                  | Nesting and denning sites                        | Low Medium High<br>0 2 4                             | ł                 | 2                 | Plant evergreen & deciduous trees & shrubs to build multi-tiered canopy |
| IAN<br>URB       | Habitat modification, structures, etc.           | High Medium Low<br>0 4 8                             | 3                 | 4                 | Repair stream   |
| HUMAN<br>DISTURB | Direct human disturb.<br>(people, traffic, pets) | High Medium Low<br>0 3 6                             | 2                 | 2                 |   |
| ES               | Wildlife   | Not rare Somewhat Very<br>0 2 4                      | 0                 | 0                 |   |
| RARE             | Flora  | Not rare Somewhat Very<br>0 2 4                      | 0                 | 0                 |   |
| R<br>FEA         | Rarity of habitat type                           | Not rare Somewhat Very<br>0 2 4                      | 0                 | 0                 |   |
| IES              | Connectivity                                     | Low Medium High<br>0 4 8                             | 1                 | 2                 | Plant stream corridor   |
| ANT<br>ATURES    | Downed wood, old stumps, snags                   | Low Medium High<br>0 4 8                             | 1                 | 1                 | ,   |
| DRT.             | % nonnative herbs                                | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2                 | 2                 |   |
| IMP(             | % nonnative shrubs                               | 100% 75% 50% 25% 10% 5% 0<br>0 1 2 3 4 5 6           | l                 | 2                 | Remove invasives  |
| HAI              | % nonnative canopy                               | >10% 5% 3% 0<br>0 2 3 6                              | 2                 | 2                 |   |
| тот              | TOTAL SCORE:                                     |  |                   | Enhanced<br>55    |   |



Habitat Code: RO-C Field Maps #: D2 Field Date(s): 3/21/07 Investigators: EL, TB

#### **General Description**

Mature forest habitat area near confluence of two stream branches. Riparian corridor fragmented by roads and development; Douglas fir dominated upland forest patches.

|           | Component  | Panga of Values   | Score<br>Evicting | Score<br>Enhanced | Commonto  |
|-----------|--|---|-------------------|-------------------|---|
|           | Component<br>Seasonality and                     | Range of Values None Moderate Good  | Existing<br>6     | 6                 | Comments<br>Spring fed (at least one tributary) |
|           | Quantity   | $\begin{array}{ccc} 1 & 1 & 1 & 1 \\ 0 & 4 & 8 \end{array}$   | Ŷ                 | Ŭ                 | opring for (at foust one thousand)              |
| ER        | Quality  | Poor Moderate Good<br>0 4 8   | 4                 | 4                 | Some siltation                                  |
| WATER     | Proximity to cover                               | None Near Adjacent<br>0 4 8   | 4                 | 4                 |   |
|           | Diversity (streams, ponds, wetlands)             | Zero One Two Three+<br>0 4 6 8  | 4                 | 4                 | · ·   |
|           | Variety  | Low Medium High<br>0 4 8  | 3                 | 5                 |   |
| FOOD      | Quantity   | Low Medium High<br>0 4 8  | 2                 | 5                 |   |
| H         | Seasonality                                      | Low Limited Yr-round<br>0 4 8   | 4                 | 4                 |   |
| 2         | Structural diversity                             | Low Medium High<br>0 4 8  | 3                 | 5                 |   |
| COVER     | Variety and seasonality                          | Low Medium High<br>0 4 8  | 3                 | 5                 |   |
|           | Nesting and denning sites                        | Low Medium High<br>0 2 4  | 2                 | 2                 |   |
| HUMAN     | Habitat modification,<br>structures, etc.        | High Medium Low<br>0 4 8  | 0                 | 0                 | Extensive piped stream segments                 |
| HUN       | Direct human disturb.<br>(people, traffic, pets) | High Medium Low<br>0 3 6  | 1                 | 1                 |   |
| E C       | Wildlife   | Not rare Somewhat Very<br>0 2 4   | 0                 | 0                 |   |
| RARE      | Flora  | Not rare Somewhat Very<br>0 2 4   | 0                 | 0                 |   |
| L L       |  | Not rare Somewhat Very<br>0 2 4   | 0                 | 0                 |   |
| 2FS       | Connectivity                                     | Low Medium High<br>0 4 8  | 1                 | 1                 |   |
| ANT       | Downed wood, old<br>stumps, snags                | Low Medium High<br>0 4 8  | 2                 | 2                 |   |
| IMPORTANT | % nonnative herbs                                | 100%         80%         50%         10%         0%           0         1         2         3         6 | 3                 | 3                 |   |
| IMP       | % nonnative shrubs                               | 100% 75% 50% 25% 10% 5% 0<br>0 1 2 3 4 5 6  | 2                 | 2                 |   |
| HAI       | % nonnative canopy                               | >10% 5% 3% 0<br>0 2 3 6   | 3<br>Existing     | 3                 | Cherry (P. avium)                               |
| тот       | TOTAL SCORE:                                     |   |                   | Enhanced<br>56    |   |



Habitat Site: Rock Creek - Northwest Habitats Overall Site Size: 180 acres Associated Wetlands: RO-D-01, RO-D-02 Associated Riparian Corridors: R-RO-D

#### Habitat Code: RO-D Field Maps #: A2, B2 Field Date(s): 3/5/07, 3/6/07 Investigators: EL, TB

#### **General Description**

Large wetland complex, linked to Johnson Creek wetland habitats to the north (this site is part of a saddle between basins). Riparian areas largely pastureland; small forest patches to north and south.

|                    |  |                          |               | Score         | Score          |   |
|--------------------|--|--------------------------|---------------|---------------|----------------|---|
|                    | Component  | Range of Val             | ues           | Existing      | Enhanced       | Comments  |
|                    | Seasonality and<br>Quantity                      | None Moderate<br>0 4     | Good<br>8     | 5             | 5              |   |
| WATER              | Quality  | Poor Moderate<br>0 4     | Good<br>8     | 4             | 6              | Add streamside cover, fencing   |
| WA                 | Proximity to cover                               | 0 4                      | Adjacent<br>8 | 2             | 4              | Add streamside cover, fencing   |
|                    | Diversity (streams, ponds, wetlands)             | Zero One Two<br>0 4 6    | Three+<br>8   | 6             | 6              |   |
|                    | Variety  | Low Medium<br>0 4        | High<br>8     | 2             | 4              | Plant berry- or fruit-bearing natives, or species attracting insects    |
| FOOD               | Quantity   | Low Medium<br>0 4        | High<br>8     | 3             | 4              |   |
|                    | Seasonality                                      | 0 4                      | Yr-round<br>8 | 3             | 3              |   |
| ×                  | Structural diversity                             | Low Medium<br>0 4        | High<br>8     | 1             | 3              | Add cover   |
| COVER              | Variety and seasonality                          | Low Medium<br>0 4        | High<br>8     | 1             | 3              | Plant evergreen & deciduous trees & shrubs to build multi-tiered canopy |
|                    | Nesting and denning sites                        | Low Medium<br>0 2        | High<br>4     | 0             | 2              | Plant evergreen & deciduous trees & shrubs to build multi-tiered canopy |
| HUMAN<br>DISTURB   | Habitat modification, structures, etc.           | High Medium<br>0 4       | Low<br>8      | 3             | 3              |   |
| UH<br>DIST         | Direct human disturb.<br>(people, traffic, pets) | High Medium<br>0 3       | Low<br>6      | 3             | 3              |   |
| SES                | Wildlife   | Not rare Somewhat 0 2    | Very<br>4     | 1             | 1              | Pileated woodpecker   |
| RARE               | Flora  | Not rare Somewhat<br>0 2 | Very<br>4     | 0             | 0              |   |
| FE.                | Rarity of habitat type                           | Not rare Somewhat<br>0 2 | 4             | 0             | 0              |   |
| RES                | Connectivity                                     | Low Medium<br>0 4        | High<br>8     | 1             | 1              |   |
| DRTANT<br>FEATURES | Downed wood, old<br>stumps, snags                | Low Medium<br>0 4        | High<br>8     | 0             | 0              |   |
| ORT.<br>TFE        | % nonnative herbs                                | 100% 80% 50% 1<br>0 1 2  |               | 1             | 1              |   |
| IMPC<br>BITAT      | % nonnative shrubs                               |                          | 4 5 6         | 2             | 2              |   |
| HA                 | % nonnative canopy                               |                          | % 0<br>3 6    | 3<br>Existing | 3              | · · · · · · · · · · · · · · · · · · ·                                   |
| тот                | TOTAL SCORE:                                     |                          |               |               | Enhanced<br>54 |   |





Habitat Site: Rock Creek - NE Tributary and Butte Habitats Overall Site Size: 752 acres Associated Wetlands: RO-E-01 Associated Riparian Corridors: R-RO-E 
 Habitat Code:
 RO-E

 Field Maps #:
 B3

 Field Date(s):
 3/5/07, 3/16/07, 4/6/07

 Investigators:
 EL, TB

#### **General Description**

Site contains large habitat patches and one of most significant wetlands in City. Mixed riparian forests along stream corridor. Douglas fir and bigleaf maple dominated forest habitats occur in large blocks on buttes.

|                  |                           |  | Score          | Score    |                                       |
|------------------|---------------------------|--|----------------|----------|---------------------------------------|
|                  | Component                 | Range of Values  | Existing       | Enhanced | Comments                              |
|                  | Seasonality and           | None Moderate Good   | 4              | 4        |                                       |
|                  | Quantity                  | 0 4 8  |                |          |                                       |
| <b>X</b>         | Quality                   | Poor Moderate Good   | 5              | 5        |                                       |
| WATER            | Durania ita ta arawa      |  |                |          | · · · · · · · · · · · · · · · · · · · |
| Ň                | Proximity to cover        | None Near Adjacent<br>0 4 8                                  | 6              | 6        |                                       |
|                  | Diversity (streams,       | Zero One Two Three+  | 6              | 6        |                                       |
|                  | ponds, wetlands)          | 0 4 6 8  | 0              | 0        |                                       |
|                  | Variety                   | Low Medium High  | 5              | 5        |                                       |
|                  |                           | 0 4 8  |                | Ť        |                                       |
| 8                | Quantity                  | Low Medium High  | 5              | 5        |                                       |
| FOOD             |                           | 0 4 8  |                |          |                                       |
| -                | Seasonality               | Low Limited Yr-round   | 6              | 6        |                                       |
|                  |                           | 0 4 8  |                |          |                                       |
|                  | Structural diversity      | Low Medium High  | 5              | 5        |                                       |
| S.R.             | <b>1 1 1 1</b>            | 0 4 8  |                |          |                                       |
| COVER            | Variety and seasonality   | Low Medium High<br>0 4 8                                     | 5              | 5        |                                       |
| 8                | Nesting and denning       | 0 4 8<br>Low Medium High                                     | 4              | 4        |                                       |
|                  | sites                     | $10^{\circ}$ Medium High $0^{\circ}$ $2^{\circ}$ $4^{\circ}$ | - 4            | 4        |                                       |
| 7 8              |                           | High Medium Low  | 6              | 6        |                                       |
| HUMAN<br>DISTURB | structures, etc.          | 0 4 8  |                | _        |                                       |
| 135              | Direct human disturb.     | High Medium Low  | 5              | 5        |                                       |
| ΗG               |                           | 0 3 6  |                |          |                                       |
| 5                | Wildlife                  | Not rare Somewhat Very                                       | 1              | 1        | Pileated woodpecker                   |
|                  | -                         | 0 2 4  |                |          |                                       |
| RARE             | Flora                     | Not rare Somewhat Very                                       | 0              | 0        |                                       |
| RARE<br>FEATURES | Destruct Of a Ether trans | <u>0 2 4</u>   |                |          |                                       |
|                  | Rarity of habitat type    | Not rare Somewhat Very<br>0 2 4                              | 0              | 0        |                                       |
|                  | Connectivity              | Low Medium High  | 5              | 5        |                                       |
| ANT<br>ATURES    | Connocuvity               | 1000 Medium High $0$ $4$ $8$                                 |                |          |                                       |
| UR 1             | Downed wood, old          | Low Medium High  | 4              | 4        |                                       |
| DRTANT<br>FEATU  | stumps, snags             | 0 4 8  |                |          |                                       |
| FE,              | % nonnative herbs         | 100% 80% 50% 10% 0%  | 3              | 3        |                                       |
| I D E            |                           | 0 1 2 3 6  |                |          |                                       |
| IMP(             | % nonnative shrubs        | 100% 75% 50% 25% 10% 5% 0                                    | 4              | 4        |                                       |
|                  | 0/                        | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$        |                |          |                                       |
| H                | % nonnative canopy        | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$        | 4              | 4        |                                       |
| <u> </u>         |                           |  |                | Enhanced | ·····                                 |
| Тот              | AL SCORE:                 |  | Existing<br>83 | 83       |                                       |
| L                |                           |  |                |          | s                                     |

Habitat Site: Rock Creek and Butte Habitats Overall Site Size: 1,567 acres Associated Wetlands: RO-F-01, RO-F-02 Associated Riparian Corridors: R-RO-F Habitat Code:RO-FField Maps #:C3, C4, B4Field Date(s):3/5/07, 3/16/07Investigators:EL, TB

# **General Description**

Diverse wetland, riparian and upland habitats with high number of interspersed seeps and springs. Large blocks of intact mixed forest habitats on buttes and connected to stream corridors; good quality grassland habitats connected to forest habitats. Mature cedars are common in forests throughout site. Some stream sections disturbed and fragmented by development.

|                               |                         | ·                                      |             | Score    | Score    |  |
|-------------------------------|-------------------------|--|-------------|----------|----------|--|
|                               | Component               | Range of Values                        | s           | Existing | Enhanced | Comments   |
|                               | Seasonality and         |  | Good        | 5        | 5        |  |
|                               | Quantity                | 0 4                                    | 8           |          |          |  |
|                               | Quality                 | Poor Moderate C                        | Good        | 6        | 6        |  |
| WATER                         |                         | 0 4                                    | 8           |          |          |  |
| ΛΥ.                           | Proximity to cover      |  | jacent      | 6        | 6        |  |
| ~                             | ······                  | 0 4                                    | 8           |          |          |  |
|                               | Diversity (streams,     |  | Three+      | 6        | 6        |  |
|                               | ponds, wetlands)        | 0 4 6                                  | 8           |          |          |  |
|                               | Variety                 | •                                      | High        | 6        | 6        |  |
|                               | <u> </u>                | 0 4                                    | 8           |          | <u> </u> |  |
| FOOD                          | Quantity                | Low Medium<br>0 4                      | High<br>8   | 6        | 6        |  |
| F                             | Seasonality             | £                                      | o<br>-round | 7        | 7        |  |
|                               | Seasonanty              | $10^{\circ}$ $10^{\circ}$ $10^{\circ}$ | 8           | /        | /        |  |
|                               | Structural diversity    | <b>1</b>                               | High        | 5        | 5        |  |
|                               | Structural arversity    | 0 4                                    | 8           | 5        | 5        |  |
| COVER                         | Variety and seasonality | •                                      | High        | 6        | 6        |  |
| 8                             |                         | 0 4                                    | 8           | Ū        | ,        |  |
| Ŭ                             | Nesting and denning     |  | High        | 4        | 4        |  |
|                               | sites                   | 0 2                                    | 4           |          |          |  |
| HUMAN<br>DISTURB              | Habitat modification,   | High Medium                            | Low         | 4        | 4        |  |
| 145                           | structures, etc.        | 0 4                                    | 8           |          |          |  |
| I I I                         | Direct human disturb.   | 0                                      | Low         | 3        | 3        |  |
| <u> <del>T</del></u> <u>a</u> | (people, traffic, pets) | 0 3                                    | 6           |          |          |  |
| Ś                             | Wildlife                |  | Very        | 4        | 4        | Olive sided flycatcher, pileated woodpecker,<br>red legged frog, cutthroat trout |
| RARE                          | 1                       | 0 2                                    | 4           |          |          |  |
| RARE                          | Flora                   |  | Very<br>4   | 0        | 0        |  |
| 2 X                           | Rarity of habitat type  |  | 4<br>Very   | 1        | f        | Unusual diversity of springs and seeps   |
| FE,                           | Karity of habitat type  | 0 2                                    | 4           | 1        | 1        | Shushai artersity of springs and seeps   |
|                               | Connectivity            |  | High        | 5        | 5        |  |
| ANT<br>ATURES                 | Connectivity            | 0 4                                    | 8           | 5        | 5        |  |
| l E B                         | Downed wood, old        |  | High        | 5        | 5        | · · · · · · · · · · · · · · · · · · ·  |
| ORTANT<br>FEATU               | stumps, snags           | 0 4                                    | 8           | -        |          |  |
| RT.                           | % nonnative herbs       | 100% 80% 50% 10%                       | 6 0%        | 3        | 3        |  |
| Ö F                           |                         | 0 1 2 3                                | 6           |          |          |  |
| IMP(<br>BITAT                 | % nonnative shrubs      | 100% 75% 50% 25% 10%                   |             | 4        | 4        |  |
| BI                            |                         |  | 56          |          |          |  |
| HA                            | % nonnative canopy      | >10% 5% 3%<br>0 2 3                    | 0<br>6      | 5        | 5        |  |
|                               |                         | 0 2 3                                  |             | E. I.I.  | Eshawa 1 |  |
| TOT                           | TOTAL SCORE:            |  |             | Existing | Enhanced |  |
| 1017                          | AL SCORE:               |  | l           | 91       | 91       |  |

WINTER BROOK

Habitat Site: Sunshine Creek Habitats Overall Site Size: 1,489 acres Associated Wetlands: SU-A-01, SU-A-02, SU-A-03 Associated Riparian Corridors: R-SU-A

 Habitat Code:
 SU-A

 Field Maps #:
 A6

 Field Date(s):
 2/22/07, 3/4/07, 3/5/07, 3/6/07

 Investigators:
 EL, TB

#### **General Description**

Sunshine Creek riparian habitat includes large farmed wetland area. Site is impacted by farming, roads and development. Smaller patches of upland forest occur primarily in eastern portion of site, with limited riparian forests to the north and south. Key restoration opportunities in the wetland and stream areas.

|                   |                                     |  |                | Score    | Score    |                                |
|-------------------|-------------------------------------|--|----------------|----------|----------|--------------------------------|
| ,                 | Component                           | Range of Va  |                | Existing | Enhanced | Comments                       |
|                   | Seasonality and                     | None Moderate  | Good           | 6        | 6        |                                |
|                   | Quantity                            | 0 4  | 8              | -        |          |                                |
| R                 | Quality                             | Poor Moderate  | Good           | 2        | 2        | Bug data – "severely impaired" |
| WATER             | Durantin the Area reason            | <u>0</u> 4   | 8              | 4        | 4        |                                |
| Ŵ                 | Proximity to cover                  | 1  | Adjacent<br>8  | 4        | 4        |                                |
| -                 | Diversity (streams,                 | 0 4<br>Zero One Two                                    | ~              | 6        | 6        | Stream/wetlands                |
|                   | ponds, wetlands)                    | $\begin{array}{ccc} 2 \\ 0 \\ 0 \\ 4 \\ 6 \end{array}$ | 8              | 0        | 0        | Stream/wetranus                |
|                   | Variety                             | Low Medium   | High           | 4        | 5        | Enhance/widen woody riparian   |
|                   | v arriety                           | 0 4  | 8              | -7       | 5        | corridor                       |
| Q                 | Quantity                            | Low Medium   | High           | 2        | 4        | Enhance/widen woody riparian   |
| FOOD              | Zummij                              | 0 4  | 8              | ~        | ·        | corridor                       |
| E.                | Seasonality                         |  | Yr-round       | 4        | 5        | Enhance/widen woody riparian   |
|                   | *                                   | 0 4  | 8              |          |          | corridor                       |
|                   | Structural diversity                | Low Medium   | High           | 3        | 5        | Enhance/widen woody riparian   |
| æ                 | -                                   | 0 4  | 8              |          |          | corridor                       |
| COVER             | Variety and seasonality             | Low Medium   | High           | 3        | 5        | Enhance/widen woody riparian   |
| õ                 |                                     | 0 4  | 8              |          |          | corridor                       |
|                   | Nesting and denning                 | Low Medium   | High           | 2        | 3        | Enhance/widen woody riparian   |
|                   | sites                               | 0 2  | 4              |          |          | corridor                       |
| HUMAN<br>DISTURB  | Habitat modification,               | High Medium  | Low            | 1        | 1        |                                |
| N/N               | structures, etc.                    | 0 4  | 8              | 1        | 1        |                                |
| DHC SIG           | Direct human disturb.               | High Medium<br>0 3                                     | Low<br>6       | ł        | 1        |                                |
|                   | (people, traffic, pets)<br>Wildlife | Not rare Somewhat                                      | -              | 3        | 3        | Olive sided flycatcher, willow |
| ES                | Wildine                             | 0 2  | 4              |          |          | flycatcher, red legged frog    |
| R                 | Flora                               | Not rare Somewhat                                      | t Very         | 0        | 0        |                                |
| RARE<br>ATURES    |                                     |  | 4              | Ŭ        | Ŭ        |                                |
| FE.A              | Rarity of habitat type              | Not rare Somewhat                                      | Very           | 2        | 2        | Ash/slough sedge wetland       |
| L H               |                                     | 0 2  | 4              |          |          |                                |
| Ś                 | Connectivity                        | Low Medium   | High           | 3        | 3        |                                |
| ANT<br>ATURES     |                                     | 0 4  | 8              |          |          |                                |
| F D               | Downed wood, old                    | Low Medium   | High           | 2        | 2        |                                |
| AI<br>A           | stumps, snags                       | 0 4  | 8              |          |          |                                |
| ORTANT<br>T FEATU | % nonnative herbs                   | 100% 80% 50% 1   |                | 2        | 2        |                                |
| PO<br>AT          | 0/                                  | 0 1 2  |                |          |          | Dissible surge                 |
| IMP(<br>BITA7     | % nonnative shrubs                  | 0 1 2 3  | 4 5 6          | 2        | 2        | Blackberry                     |
| - <b>-</b>        | % nonnative canopy                  |  | <del>%</del> 0 | 4        | 4        |                                |
| H                 |                                     |  | 3 6            |          |          |                                |
|                   |                                     | ***************************************                |                | Existing | Enhanced |                                |
| TOT               | AL SCORE:                           |  |                | 56       | 65       |                                |

WINTER BROOK



Habitat Site:Sunshine Creek - West Tributary & Butte HabitatsHabitat Code:SU-BOverall Site Size:533 acresField Maps #:A5Associated Wetlands:N/AField Date(s):3/5/07, 4/6/07Associated Riparian Corridors:R-SU-BInvestigators:EL, TB

#### **General Description**

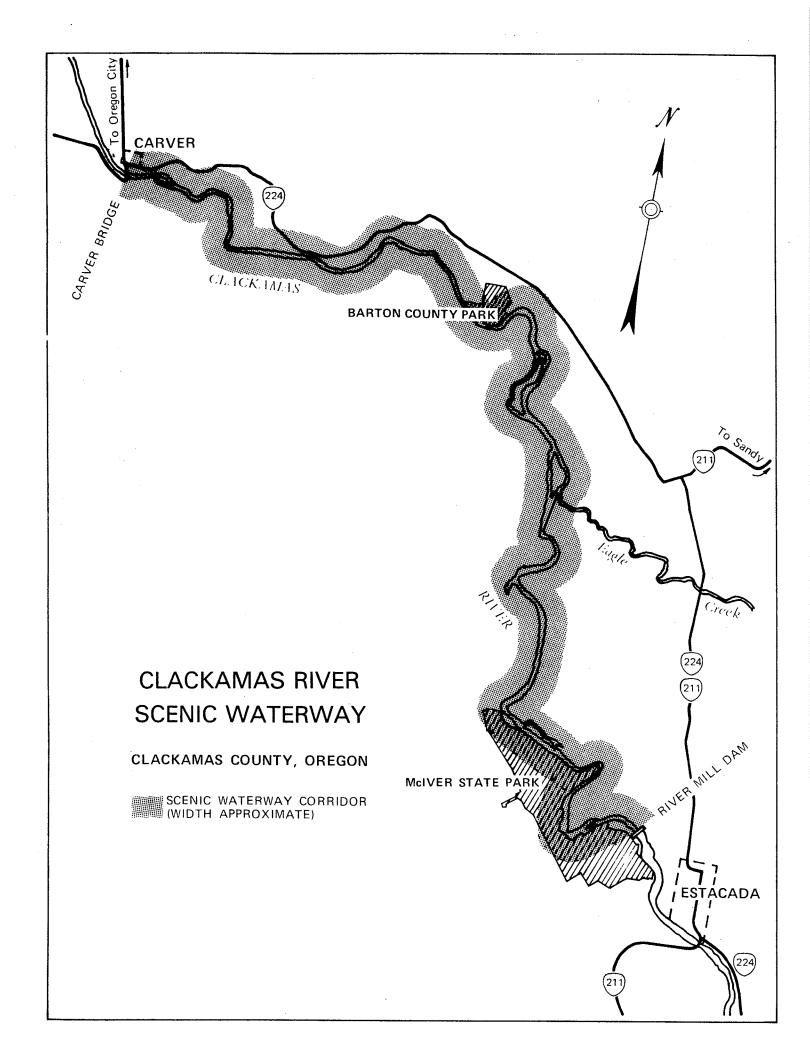
Mature cedar forest and large blocks of intact mixed forest habitats on "North Sunshine" butte connected to generally intact riparian corridor.

| [                 |  |  | Score          | Score          |  |
|-------------------|--|--|----------------|----------------|--|
|                   | Component  | Range of Values                            | Existing       | Enhanced       | Comments   |
|                   | Seasonality and<br>Quantity                      | None Moderate Good<br>0 4 8                | 6              | 6              |  |
| WATER             | Quality  | Poor Moderate Good<br>0 4 8                | 5              | 5              | Bug data – "moderately impaired"   |
| WA'               | Proximity to cover                               | None Near Adjacent<br>0 4 8                | 7              | 7              |  |
|                   | Diversity (streams, ponds, wetlands)             | Zero One Two Three+<br>0 4 6 8             | 4              | 4              |  |
|                   | Variety  | Low Medium High<br>0 4 8                   | 6              | 6              |  |
| FOOD              | Quantity   | Low Medium High<br>0 4 8                   | 6              | 6              |  |
|                   | Seasonality                                      | Low Limited Yr-round<br>0 4 8              | 6              | 6              |  |
| R                 | Structural diversity                             | Low Medium High<br>0 4 8                   | 6              | 6              |  |
| COVER             | Variety and seasonality                          | Low Medium High<br>0 4 8                   | 6              | 6              |  |
|                   | Nesting and denning sites                        | Low Medium High<br>0 2 4                   | 4              | 4              |  |
| HUMAN<br>DISTURB  | Habitat modification, structures, etc.           | High Medium Low<br>0 4 8                   | 4              | 4              |  |
| HUN<br>DIST       | Direct human disturb.<br>(people, traffic, pets) | High Medium Low<br>0 3 6                   | 3              | 3              | Dogs, cats   |
| E<br>RES          | Wildlife   | Not rare Somewhat Very<br>0 2 4            | 4              | 4              | Purple martin, pileated woodpecker,<br>willow flycatcher, olive sided<br>flycatcher, red legged frog |
| RARE<br>FEATURES  | Flora  | Not rare Somewhat Very<br>0 2 4            | 0              | 0              |  |
| FE                | Rarity of habitat type                           | Not rareSomewhatVery024                    | 1              | 1              | Mature cedar forest  |
| RES               | Connectivity                                     | Low Medium High<br>0 4 8                   | 5              | 5              |  |
| RTANT<br>FEATURES | Downed wood, old stumps, snags                   | Low Medium High<br>0 4 8                   | 6              | 6              |  |
| E                 | % nonnative herbs                                | 100% 80% 50% 10% 0%<br>0 1 2 3 6           | 3              | 3              |  |
| IMPOI<br>BITAT    | % nonnative shrubs                               | 100% 75% 50% 25% 10% 5% 0<br>0 1 2 3 4 5 6 | 4              | 4              |  |
| HA                | % nonnative canopy                               | >10% 5% 3% 0<br>0 2 3 6                    | 4              | 4              |  |
| TOTAL SCORE:      |  |  | Existing<br>90 | Enhanced<br>90 |  |

# CLACKAMAS RIVER STATE SCENIC WATERWAY (Clackamas County)

# MANAGEMENT PROGRAM AND BACKGROUND REPORT

## PREPARED BY OREGON DEPARTMENT OF TRANSPORTATION STATE PARKS AND RECREATION DIVISION SCENIC WATERWAY PROGRAM OCTOBER, 1985



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## Executive Summary

- I. What is a Scenic Waterway?
- II. Background
- III. What's Special about the Clackamas River Scenic Waterway?
- IV. Recommended Management Program
- V. Resource Information Clackamas River Overview

## Executive Summary

This report recommends a management program for the Clackamas River Scenic Waterway (12 miles - River Mill Dam to Baker Bridge at Carver) designated by the 1975 Oregon Legislature.

The Oregon Scenic Waterway Act (ORS 390.805 - ORS 390.925) requires the Oregon Transportation Commission, through the State Parks and Recreation Division administer the scenic waterway (including adjacent lands within 1/4 mile of each bank) for the protection and enhancement of "esthetic, scenic, fish and wildlife, scientific and recreation features".

Since its designation in 1975, the Clackamas River Scenic Waterway has been managed under the Commission's general rules for scenic waterway management. This report establishes specific management guidelines for the Clackamas based on the special scenic, natural and recreational attributes of the river corridor.

These attributes, as listed in the report, include:

- 1. The river's close proximity to the Portland metro area.
- 2. The very high water quality.
- 3. The natural appearing riverbanks with a wide mixture of streamside vegetation (species and size).
- 4. The excellent fish and wildlife habitat that allow frequent encounters with osprey, great blue heron, deer and other wildlife. Steelhead are also abundant.
- 5. The outstanding recreation opportunities for fishing, float and power boating, picnicking, swimming and camping. Five public recreation areas covering over 1000 acres are within the corridor.
- 6. The outstanding scenic qualities as evidenced by the streambank trees, whitewater riffles, deep pools, islands, and tall sandstone cliffs. The area is rural, pastoral in its appearance.

In order to protect and enhance these values, this report recommends the river be classified a <u>Recreational River Area</u> by the Transportation Commission. This classification recognizes the semi-developed, rural/pastoral nature of the river segment. The rule proposed to carry out the program requires new structures, improvements (including road 'building), mining operations and timber harvesting activities to be screened from view from the river by topography or vegetation. Facilities necessary for public outdoor recreation may be visible from the river.

Streambank erosion protection projects (riprap) would be permitted under this classification where a need is demonstrated and when non-structural efforts (reconturing, tree planting, etc.) have failed or are not feasible.

This proposed rule classifying the Clackamas River Scenic Waterway must be approved by the Oregon Transportation Commission with the concurrence of the Water Policy Review Board before it goes into effect.

### I. WHAT IS A SCENIC WATERWAY?

The Oregon Scenic Waterway Program was established by a vote of the people in 1969. Scenic waterways are administered under the authority of the Oregon Transportation Commission through the State Parks and Recreation Division (ORS 390.805 to ORS 390.925). The scenic waterway program seeks to preserve, protect and enhance scenic, recreational, fish and wildlife and cultural values possessed by each individual scenic waterway. The Commission's rules specifically outline the manner in which the Scenic Waterways Act is to be carried out.

The Act and the Commission's rules generally require proposed changes of land use within ½ mile on each side of the river to to be evaluated for their potential to affect the natural scene. Property owners wanting to build roads, houses, develop mines, cut timber or do similar activities must notify the Commission in advance. Within one year of notification, the Commission must decide if the proposal will impair the scenic beauty of the river. The Commission relies on its rules for each designated scenic waterway to make the determination. The Act allows the Commission to pay property owners for their land if impairment of the scenic beauty cannot be prevented by any other means. Other local and state agencies must comply with the Act. (See Appendix for Oregon Scenic Waterways Act and Administrative Rules.)

Filling in the river, removing soil and gravel from the river or changing the riverbank in any way, regardless of the amount of soil or rock involved, requires special approval of the State Land Board and the Director of the Division of State Lands.

The Director of the Oregon Department of Water Resources is required to insure that new water rights issued within the scenic waterway will be used only for human consumption, livestock, fish, wildlife and recreation. Other uses may be permitted, but only after a finding that sufficient flow is available for existing uses, plus the previously described five. Dams, impoundments, reservoirs and placer mining are prohibited within the scenic waterway corridor including tributary streams within the ½ mile boundary.

### II. BACKGROUND

This report examines the Clackamas River Scenic Waterway (12 miles, from River Mill Dam to Baker Bridge) added to the state scenic waterway system by the Oregon Legislature in 1975. The report looks at the various natural resource, land use and recreational features found along the scenic waterway. It proposes a program to manage land use within the scenic waterway corridor in conformance with the Act and the rules for scenic waterway management.

The river was first designated as a county "natural river" by a majority of Clackamas County voters in 1974 following a successful county initiative petition drive. Later that year, Circuit Court action overturned the county designation. The proponents for river protection of the Clackamas then turned to the state legislature and sought state In 1975, the Oregon Legislature voted the Clackamas River designation. into State Scenic Waterway designation. Since that time, the Clackamas River Scenic Waterway has been administered by the State Parks and Recreation Division. The Division has applied the Commission's general rules for scenic waterways management to the Clackamas. This management program establishes rules specific to the Clackamas based on its own special attributes.

## III. WHAT'S SPECIAL ABOUT THE CLACKAMAS RIVER SCENIC WATERWAY?

Inventory and study of the Clackamas River Scenic Waterway revealed six attributes that are peculiar to this stretch of the Clackamas and set it apart as "special" among the state's rivers. These attributes led the citizens of Clackamas County and the Oregon Legislature to designate the river as a state scenic waterway. Recognizing these attributes or conditions, and protecting them, when appropriate, is the basis for the management program outlined in this report.

1. The Clackamas River is close to Oregon's major urban center - the Portland-Metropolitan area. The river area provides an attractive alternative to city living.

- 2. Water of the Clackamas River is of very high quality; it is the potable water source for numerous jurisdictions downstream of the scenic waterway.
- 3. The riverbanks along much of the segment are natural appearing, except where development is readily visible. The streamside vegetation is dense with a mixture of deciduous and coniferous trees. This mixture of vegetation creates a pleasant, scenic river environment.
- 4. The Clackamas River area, because of its abundant vegetation, variety of topography, scattered development and high water quality is an excellent habitat for fish and wildlife. Sightings of small animals and deer, great blue heron, ducks, osprey, and other wildlife are not unusual. Fishlife in the river is particulary abundant, helped along by hatcheries on Eagle Creek and at McIver State Park. Steelhead populations are returning to levels not seen in several decades.
- 5. The scenic waterway corridor from River Mill Dam to Carver includes two state park areas and two county parks. Recreation opportunities on this stretch of river include boating, overnight camping, picnicking, fishing, and swimming. A recreational activity showing great popularity is river floating. Jet-pump driven power boats are used during the fishing seasons. During the warm summer months, recreationists in rubber rafts, canoes, and kayaks are abundant along the river from McIver Park and Barton Park to Carver.
- 6. The river is a definite scenic attraction. Whitewater riffles, large streambank trees, deep pools, islands and long shallow river stretches combine to make the river exciting and interesting to the river users. Even though the river is not isolated (because of its close proximity to Portland), it is pleasing to view because of its rural, pastoral appearance.

### IV. RECOMMENDED MANAGEMENT PROGRAM

The Act requires that the Commission, through the State Parks and Recreation Division administer the area in order to <u>protect</u> and <u>enhance</u> the values which caused the river to be included in the scenic waterway system.

The Division's management is based on the "special attributes of each area," and gives primary emphasis to protecting the esthetic, scenic, fish and wildlife, scientific and recreational features. The aim of the program is to maintain the scenic "status quo" condition of the area without "turning back the clock" on existing developed land uses.

In order to do so, the river would be classified into one or more of six possible classifications, according to the level of existing developed land uses. Once the classifications are set, specific guidelines for new development are established as rules. The six possible classifications with general descriptions and their general management directions follow:

- 1. <u>Natural River Areas</u> are generally inaccessible except by trail or river with primitive or minimally developed shorelands. Preservation and enhancement of the primitive character of these areas is the goal of this and the next three classifications.
- 2. <u>Accessible Natural River Areas</u> are relatively primitive, undeveloped areas with access by railroad or lightly traveled road.
- 3. <u>Scenic River Areas</u> may be accessible by roads but are largely undeveloped and primitive except for agriculture and grazing.
- 4. <u>Natural Scenic View Areas</u> are designated where one riverbank is inaccessible, undeveloped or primitive in character while the opposite bank is accessible and developed.

- 5. <u>Recreational River Areas</u> are readily accessible by road or railroad with some agricultural, commercial and/or residential development along the banks. Management is aimed at allowing development consistent with what is present while protecting the view from the river and other natural features.
- 6. <u>River Community Areas</u> are highly developed areas of commercial or residential uses in natural settings. Allowing development with an eye toward maintaining the natural setting is the aim of management.

The rules established for each classified river segment generally allow continuation of the use of existing structures and improvements. In fact, though some improvements require notification/review/approval by the Commission, many others do not. For example, on some other scenic waterways, notification and approval is not needed for construction of new fences; maintenance of farm buildings; fences or outbuildings; laying of irrigation lines; crop rotation; removal of danger trees; construction of grain storage facilities under certain conditions; maintenance of existing residences and outbuildings; minor residential remodeling; construction of garages adjacent to existing homes; certain changes in homesite landscaping; maintenance or roads and bridges; and firewood cutting for personal use.

Mining, roadbuilding, construction of most new structures, placement of mobile homes, land clearing and timber harvest are examples of activities requiring approval. River classification and the rules or guidelines determine how the natural and scenic beauty of the river will be maintained.

It is recommended that the scenic waterway segment of the Clackamas River be classified as a <u>Recreational River Area</u> by the Oregon Transportation Commission. This river classification will allow it to be managed for the continuation of the existing developed compatible uses, to protect the important riverbank vegetation along the river, and to recognize importance of the river and its adjacent public lands for public outdoor recreation purposes. Classifying this stretch as a <u>Recreational River</u> recognizes its close proximity to the Portland-Metropolitan area and the existing land use patterns of suburban/rural development that have already occurred. The classification will permit restoration of eroding riverbanks, when done carefully, where there is demonstrated need. Nonstructural means to stabilize riverbanks (e.g., plantings, recontouring, etc.) will be favored over rip-rapping or other structural methods.

The proposed management program, stated below, places strong emphasis on protecting and preserving the riverbank vegetation. The program is consistent with the Clackamas County Comprehensive Plan and zoning ordinances.

### Recreational River Area

- a. That segment of the Scenic Waterway extending from River Mill Dam downstream approximately 12 miles to Bakers Bridge at Carver is classified as a Recreational River Area.
- b. The Recreational River Area will be administered consistent with the purposes of OAR 736-40-040 (1)(c)(B). Within this area, new structures improvements, mining operations and and timber harvesting activities shall be permitted only when substantially screened from view from the river by topography or vegetation. If no such topographic or vegetative screening exists on a site, the structure or improvement may be permitted if vegetation is established which will provide substantial screening to the proposal in a reasonable time (for example, 2-3 years). The condition of "substantial vegetative screening" shall consist of an ample density and mixture of native evergreen and deciduous vegetation to totally obscure or allow only a highly filtered view of, the proposed structures or improvements. Developments necessary for public outdoor recreation, as provided by public agencies, and resource protection may be visible from the river but must blend into the natural scene as much as possible.

All the Commission's rules for scenic waterway management, OAR 736-40-025 through OAR 736-40-035, shall apply to the Clackamas River Scenic Waterway except where this section is more specific.

These rules, if adopted, will have the effect of clarifying policy direction for the review of public and private projects proposed within the Clackamas River Scenic Waterway. Not only will the Oregon Transportation Commission, through the State Parks and Recreation Division, rely on them, but also the State Land Board, Division of State Lands, Water Resources Department and to some extent all other local, state and federal agencies.

Other management program objectives include:

- The State Parks Division and the Oregon Department of Fish and Wildlife (ODFW) shall encourage private property owners to investigate and apply for riparian property tax deferral program. The program is administered by the ODFW and offers property tax benefits to certain qualified riverfront property owners.
- 2. The possibility of making river islands available for public use should be investigated. River islands are important to fish and wildlife habitat and for public recreation use. Using river islands for public use can relieve some of the trespassing problems along the riverbanks.
- 3. The ODFW, the Division and the Clackamas County shall cooperate with conservation, fishing and boating organizations (e.g., Northwest Steelheaders, Northwest Rafters Association, Oregon Kayak and Canoe Club, Izaak Walton League) to:
  - a. Provide information and education to river users that will reduce conflicts among users especially recreationists and landowners;

- b. Accept volunteer help in taking care of the Clackamas River Scenic Waterway (e.g., litter clean-up, facility maintenance and improvement);
- c. Identify additional lands needed for fishing access, scenic protection, or public recreation use.
- 4. The Division should accept the donation of scenic easements and property from riverfront property owners.
- 5. The Division shall seek the cooperation of all local, state and federal agencies in meeting the objectives of this program and complying with the Act and Commission's rules.
- 6. Any modification to existing policy or program established by the Oregon Water Resources Commission should take into account instream recreation use needs as identified in ORS 390.835(1). Desirable flow levels for various recreational uses should be identified. When recreational flow levels have been identified, discussions should be initiated to resolve conflicts resulting from flow fluctuations.

## V. Background Report

A. The mainstem Clackamas River originates south of the Sandy Basin. The Collawash Fork, a major headwater tributary, originates in southeast Clackamas and northeast Marion Counties. The Oak Grove fork originates east of Timothy Lake joining the Clackamas near Ripplebrook Ranger Station. The river flows west to its confluence with the Willamette River at the Oregon City/Gladstone city limits.

The drainage basin contains 936 square miles, consisting largely of forest and agricultural uses. Average annual flow is about 3,700 cubic feet per second.

There are two minimum flow points for the Clackamas River. The minimum flow for the Upper Clackamas River (established on May 25, 1966) is 150 cfs from July 1 through September 15 and 240 cfs from

September 16 through June 30 at the  $SE_4$ , Section 26, Township 6 South, Range 7 East. These minimum flows are based on minimum needs to maintain aquatic life. No flow has been established for minimum flows for other instream uses such as recreation.

The Clackamas can be characterized as a relatively young river, i.e., making occasional channel changes, downcutting and following a steep gradient. Average gradient is 16.4 feet per mile from the U.S. Forest Service boundary to the Willamette River.

Below the U.S. Forest Service boundary, upstream from Estacada, the banks are fairly well defined; river canyons are not uncommon.

Three dams are present, North Fork, Faraday and River Mill. A fourth dam is located on the Oak Grove Fork. There are no dams within the scenic waterway segment. All four dams are owned by Portland General Electric Company and utilized for power generation. Since the dams are used for power generation, water fluctuations are common on the river. Warning notices are posted at various points along the river.

B. Land Ownership and Use

1. Public Ownership

Within the 12-mile scenic waterway section, there are four public park areas:

Milo McIver State Park - 847 acres Bonnie Lure State Park - 94 acres Barton County Park - 100 acres Carver Boat Ramp - 5 acres

A public river access site does exist at Feldenheimer Ferry. Legal parking is limited to the existing county roadway. It is undeveloped.

Major boating facilities (i.e., paved ramps) are located at Barton, McIver (2), and Carver. Bonnie Lure provides walk-in riverbank access only.

## 2. Private Ownership

Much of the riverbank is in private ownership. The County's Comprehensive plan identifies forest and agriculture as the two major land uses. Private homes dot the landscape while some are concentrated in the three major subdivisions at Twin Island, Paradise Park, and Laura Dell Acres.

The land use breakdown within the scenic waterway corridor is as follows:

|   | Estimated<br>Acreage                         | Percent   |
|---|--|---|
| Residential<br>Commercial<br>Industrial<br>Developed<br>Open Space Agr/Forest | 455.50<br>0.90<br>125.60<br>585.0<br>4,202.2 | (8.5%)<br>(0+%)<br>(2.3%)<br>(10.9%)<br>(78.3%) |
| Total   | . 5,369.2                                    | 100.0%  |

Three commercial and one public gravel mining operations are located within the scenic waterway boundary, but are not readily visible from the river. All are partially or totally screened from view from the river (by topography and/or vegetation).

## 3. Roads, Highways, and Powerline Crossings

A major Bonneville Power Administration electrical distribution line crosses the river at about River Mile 16. The multi-line structure dominates the river scene for several hundred yards. Two low-voltage powerlines cross the river just above Feldenheimer's Ferry Crossing.

The left bank of the river is almost totally free of a direct view of a major road. Highway 224 runs along the right bank for several hundred yards just above Carver Bridge, and, although cars are visible, the impact is minimal on the view from the river. There are minor roads that provide access to riverside developments but few are readily visible from the river.

## 4. County Comprehensive Planning and Zoning Designations

The Rivers Area Design Plan, a component of the Clackamas County Comprehensive Plan acknowledges that the river corridor has many natural values that should be maintained. The Comprehensive Plan acknowledges and supports the role of the State Scenic Waterways Act as it applies to the Clackamas River.

Existing land uses include agriculture, forestry and rural residential. These are allowed and implemented by the EFU (Exclusive Farm Use), TT (Transitional Timber), and GTD (General Timber District) zones. While these zones recognize, and to an extent, retain aesthetic values, their primary purpose is to further the predominant use, without regard for the appearance of new development.

In order to implement the Rivers Area Design Plan, the PRC (Principal River Conservation) overlay zone was created. This overlay establishes a one-quarter mile corridor (measured from mean low water) and certain use criteria for development within The main purpose is to maintain the integrity of the river, it. taking into consideration its natural, scenic. historic. economic. cultural and recreationa] elements. This is accomplished primarily through the establishment of a set-back line of a minimum of 100 feet from mean low water. This set-back may be increased to 150 feet to lessen the impact of development, if required.

Other standards for development govern: height of residential structures which can be seen from the river (35 feet); the prohibition of subsurface sewage disposal systems within 100 feet of mean low water; screening requirements for commercial and industrial parking; signs and storage areas; the allowance of minor residential partitioning; and review criteria for water impoundments, diversions and hyrdroelectric facilities. This zone is applied to the Clackamas, Sandy/Salmon, Molalla/Pudding and Tualatin river corridors with the exception of those areas designated as State Scenic Waterways. In the designated State Scenic Waterway portion of the Clackamas, the provisions of the State Scenic Waterways Act prevail when found to be either in conflict with or more restrictive than the provisions of the PRC zone.

Further protection of the natural attributes of the Clackamas is provided by the FPMD (Flood Plain Management District) overlay zone. This overlay establishes various flood plain zones and criteria for development within it.

- C. Natural, Cultural and Scenic Resources.
  - 1. Water quality

A County study on water quality classifies the Clackamas as "very good." Sixteen jurisdictions use its water for public water supply. No point source discharges are evident within the scenic waterway. However, there are discharge points above the scenic waterway segment. These discharges apparently have little or no impact on the water quality within the scenic waterway. No chemical analysis of the water within the scenic waterway is included in this report. Turbidity apparently is only a factor during high winter flows.

Maintaining good water quality is vitally important to steelhead and other fish in the Clackamas River.

2. River Hydrology

The banks located on the outside curve of the river bend are subject to the constant erosive power of the river. Some banks experience continual erosion. As they erode, they deposit large chunks of sandstone or soil into the river itself. In other places, the gravel and soil riverbank is melted away by the high flows, leaving an undercut or vertical bank. Residents have moved to protect their residential frontage with rock riprap.

Severe erosion is evident along Baker's Ferry Road and in other areas. No non-structural erosion control appears to have been attempted. Vegetative plantings and log placement may lessen or slow the erosion process.

3. Flooding

Flooding occurs seasonally usually during winter months. The highest recorded flow was December 22 in 1964. Historically, the river runs from 15,000 cubic feet per second (cfs) to 600 cfs, with an average annual flow of 3,700.

### 4. Geological Features

The most significant geologic features along the scenic waterway are the sandstone cliffs and outcroppings. Most evident are deposits at McIver State Park boat ramp and upstream of Barton County Park. There large blocks of sandstone have been eroded from the bank and are submerged in the river.

### 5. Vegetation

The County comprehensive plan classifies approximately 70 percent of the river corridor as forest land. The remainder is devoted to agricultural, open space and residential development. Coniferous species such as Douglas fir, grand fir, western red cedar and white fir are abundant; maple, cottonwood, ash and alder are also widespread and sometimes mixed with the conifers.

The riverbank has a mixed deciduous/conifer forest cover of moderate height (50-80 feet tall on the average) with some trees exceeding 100' tall. The undergrowth is dense brush including scotch broom, blackberry and other related species (including Oregon grape and vine maple). The vegetation is important to stablize the riverbank; provide food, cover and habitat for wildlife; provide shade and food for fish; provide a scenic backdrop for recreationists; and to buffer upland property owners from river users.

6. Fish and Wildlife

There is abundant fish and wildlife along the scenic waterway corridor. Sightings of deer, osprey, great blue heron, ducks and other birds and animals are common.

The anadromous fishery--salmon and steelhead--has been enhanced by hatcheries at McIver State Park and Eagle Creek.

At the present, the variety and abundance of fish and wildlife can be attributed in large part to the water quality, vegetative cover and open space.

7. History

Feldenheimer's Ferry Crossing is the only remaining significant historical site on the river. During the early pioneer days Feldenheimer's Ferry was a necessary link in the famous Barlow Trail. All that remains of the trail today are a few ruts in the hillside and a county road.

8. Scenic Features

The river is a definite scenic attraction. Whitewater riffles, large stream bank trees, deep pools, islands and long shallow river stretches combine to make the river exciting and interesting to the river users. Even though the river is not isolated, it is pleasing to view because of its rural, pastoral appearance. Grazing cattle and large areas of undisturbed vegetation border the river in many places. Some high bluffs with steep banks are located along the river and provide variety to the view because of their height, color and texture.

A few developed areas (mostly residential) adjoin the riverbank, most are unobtrusive. Many are screened from view from the river by vegetation and/or topography. The most conspicuous developments are perched atop unvegetated rock revetments. These areas lack the irregularity of the natural riverbank and are not as pleasing to view as the natural riverbank.

## D. Existing Recreational Use

1. Boating

Boaters use the river for fishing or to enjoy a scenic whitewater float trip. Power boats are used for both fishing and sightseeing trips, although most power boat use occurs during the fishing season.

Heavy use occurs during the hot summer days, especially on weekends, when various sizes and shapes of floating devices are launched into the river. Drownings have occurred on the river.

It is during this use season, when the boater/landowner conflicts are likely to occur. Floaters stop on private land to ask the time of day, or the distance to Carver, all of which cause conflict. Particularily aggravating to private property owners are the large organized "raft race" type activities sponsored by various organizations. Floater/landowner conflicts during these activities are more frequent than on other occassions of "regular" use.

Some commercial boat rental/shuttle services and guiding services operate on the river.

The scenic waterway portion of the Clackamas is apparently a <u>day</u> <u>use</u> experience. Little, if any, overnight camping by boat occurs on this river segment. There are no estimates available on total boating use.

2. Fishing

Heavy use occurs during the steelhead-salmon runs usually December to May, with the heaviest use occurring on weekends. During these times, boater conflicts sometimes occur. All of the ramps are small and only one boat at a time can be launched or retrieved.

Feldenheimer's has no designated parking area or developed ramp; cars and trailers park along the narrow county roadway. A second boat ramp at the lower end of McIver State Park has helped to relieve some of these problems.

Approximately 41,800 angler days per year occur on this segment of the Clackamas River. Bank anglers concentrate use around the existing public parks and roadways. However, some trepass does occur in the area of the west bank downstream of Barton Bridge.

3. Camping, Picnicking, Swimming and Others

The scenic waterway portion of the Clackamas is close to the Portland urban area. McIver receives heavy day use during the summer months. Camping demand is not high. Barton County Park and McIver State Park provide camping facilities.

Bonnie Lure State Park has no developed facilities and provides only walk-in river access. Barton provides camping facilities and is popular as a day use area. Carver is strictly a boating access site, although the parking lot and restrooms serve day users seeking fishing, swimming and sunbathing opportunities. Annual use at McIver State Park is about 144,000 user days, and 6,000 campernights. Annual use at Barton County Park is about 200,000 user days and 8,000 campernights.

### 4. Recreation Use Projections

Boating use, especially non-angler use, seems to be growing but no data is available to determine actual annual use or annual growth. Existing public access and park facilities appear to be adequate to meet existing demands. Future needs might include: additional river access for bank anglers and boat launching (possibly at Feldenheimer's or near Barton Bridge); and additional day use facilities at Carver boat ramp.

Increased river use from both boat and bank recreationists, may result in increased conflicts with private land owners and other users. River and land patrols for litter, clean-up, river user education and rule enforcement may be necessary.

JL:aln 4435B/45A Rev 10/85

# Appendix J. Wetland Staff Qualifications

This section is provided as a required element of the Local Wetlands Inventory and is therefore limited to field staff who worked specifically on the wetlands inventory.

| Tim Brooks:               | Principal Environmental Planner  |
|---------------------------|--|
| Project Role:             | Project Manager  |
| Project Responsibilities: | Wetland inventory, assessment and mapping; agency coordination; public involvement |

Tim has more than 18 years of experience managing Goal 5 natural resource inventory and planning projects for local communities in Oregon. Tim has recently completed wetland inventories or inventory updates for the cities of Prineville, Newberg, Woodburn, Albany, and West Linn. In addition to project management, Tim's responsibilities have included extensive field investigations, functional value assessments, significance determinations, and impact analyses. Tim has conducted wetland delineations, functional value assessments, and wildlife habitat assessments for both public and private clients throughout Oregon and Washington. Tim worked for six years under the guidance of Andy Castelle and other professional wetland scientists. He completed the Interagency Wetland Delineation Course in 1993, and specialized courses in wetland ecology and vegetation since then.

| Anita Cate Smyth, PWS:    | Wetland Scientist                       |
|---------------------------|---|
| Project Role:             | Senior Wetland Scientist                |
| Project Responsibilities: | Wetland determinations and assessments, |

Anita is a Professional Wetland Scientist with twelve years of experience in natural resource inventories, with emphasis on wetland delineation and permitting. She holds Professional Master's Degree in Environmental Sciences from Oregon State Univesity. She spent two years at Clackamas County's Department of Transportation and Development, Engineering Section as a program manager and a resource for wetland and other environmental expertise. During her nine years at W&H Pacific, she expanded that technical and project management expertise through execution of numerous wetland mitigation site design projects, natural resource inventories, and riparian and wetland functional assessments as stand-alone projects and as part of Joint Permit Applications for specific actions. Anita now heads Westbrook Science & Design, LLC, a womanowned business focused on using her experience and talent on behalf of public and private clients in Oregon and Idaho.

| Esther Lev:               | Biologist                                |
|---------------------------|--|
| Project Role:             | Senior Wildlife and Wetlands Scientist   |
| Project Responsibilities: | Wildlife habitat and wetland assessments |

Esther is a wildlife and restoration ecologist with over 30 years experience in wildlife ecology, wetlands assessment, natural resource planning, public outreach and education. Her experience includes the preparation of designs for site and watershed assessments,

restoration design, planting plans, project permitting, project construction and implementation, collaborative community and volunteer education and supervision. Esther is currently Executive Director of The Wetlands Conservancy (TWC). Her studies in the Damascus area have included a landscape analysis and evaluation of wildlife habitats within the Rock and Richardson Creek Watersheds and development of a methodology to assess biological health of tributaries of the Clackamas River, including upland habitats.

| Mary Bushman:             | Environmental Scientist                                 |
|---------------------------|---|
| Project Role:             | Botanist  |
| Project Responsibilities: | Wetlands documentation and assessment, data compilation |

Mary Bushman holds a Master's degree in Botany and Plant Ecology and has experience in habitat assessment using field data collection and analysis, GIS analysis, public outreach, scientific reporting, natural resource management planning, and restoration planning. For Metro, Mary was an intern in the Fish and Wildlife Protection Program. For the Department of State Lands, she was Program Director for the Coast Range Association. At the Institute for Applied Ecology, Mary worked on projects designed to attain knowledge of rare plants in the Willamette Valley and Eastern Oregon. At Sitka Center for Arts and Ecology, she developed plans for policy change and environmental restoration projects on the Lower Salmon river. At Winterbrook, Mary has worked on Natural Features Inventories for the Cities of Prineville and Damascus.

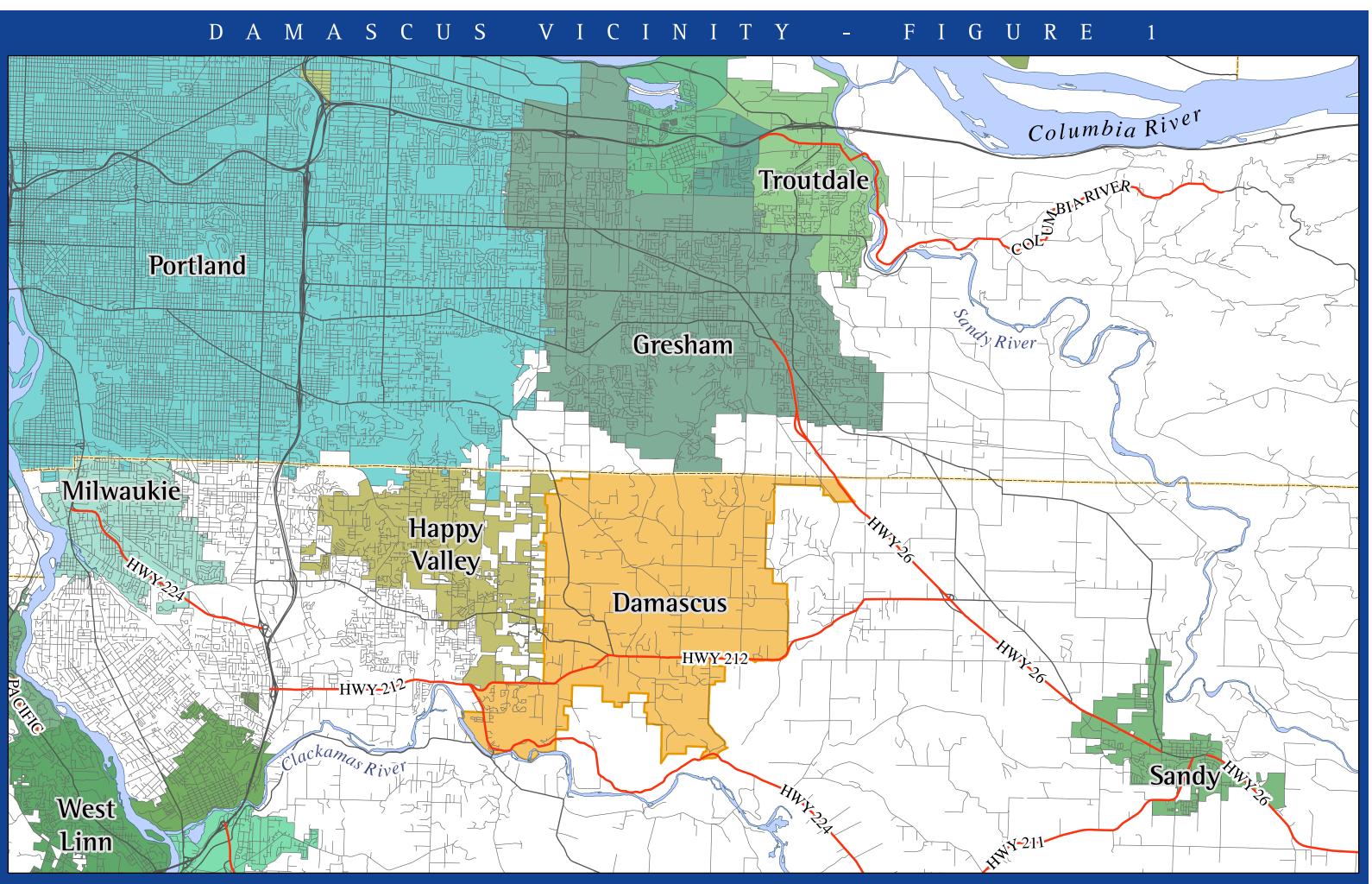
| Ryan Ruggiero             | Natural Resources & Landscape Planner |
|---------------------------|---------------------------------------|
| Project Role:             | Project Wetland Scientist             |
| Project Responsibilities: | Wetlands documentation                |

Ryan has over three years of experience conducting wetland determinations and delineations, writing wetland delineation reports, and working on other wetlands projects. He played a key role in both the Clark County Regional Wetland Inventory and the Happy Valley Local Wetlands Inventory, engaging in spatial data collection and development, field verification, and documentation. In addition, he has been a major contributor on several recent wetland mitigation projects including the Mirror Lake and East Fork Minnow Creek Wetland Mitigation Banks (ODOT) and the Coho Creek Relocation Project at the Hoonah Airport in Hoonah, Alaska (ADOT). He has also conducted wetland field work and historical research in support of expert testimony in a recent court case. Mr. Ruggiero has an extensive background in ecology, botany, and Geographic Information Systems.

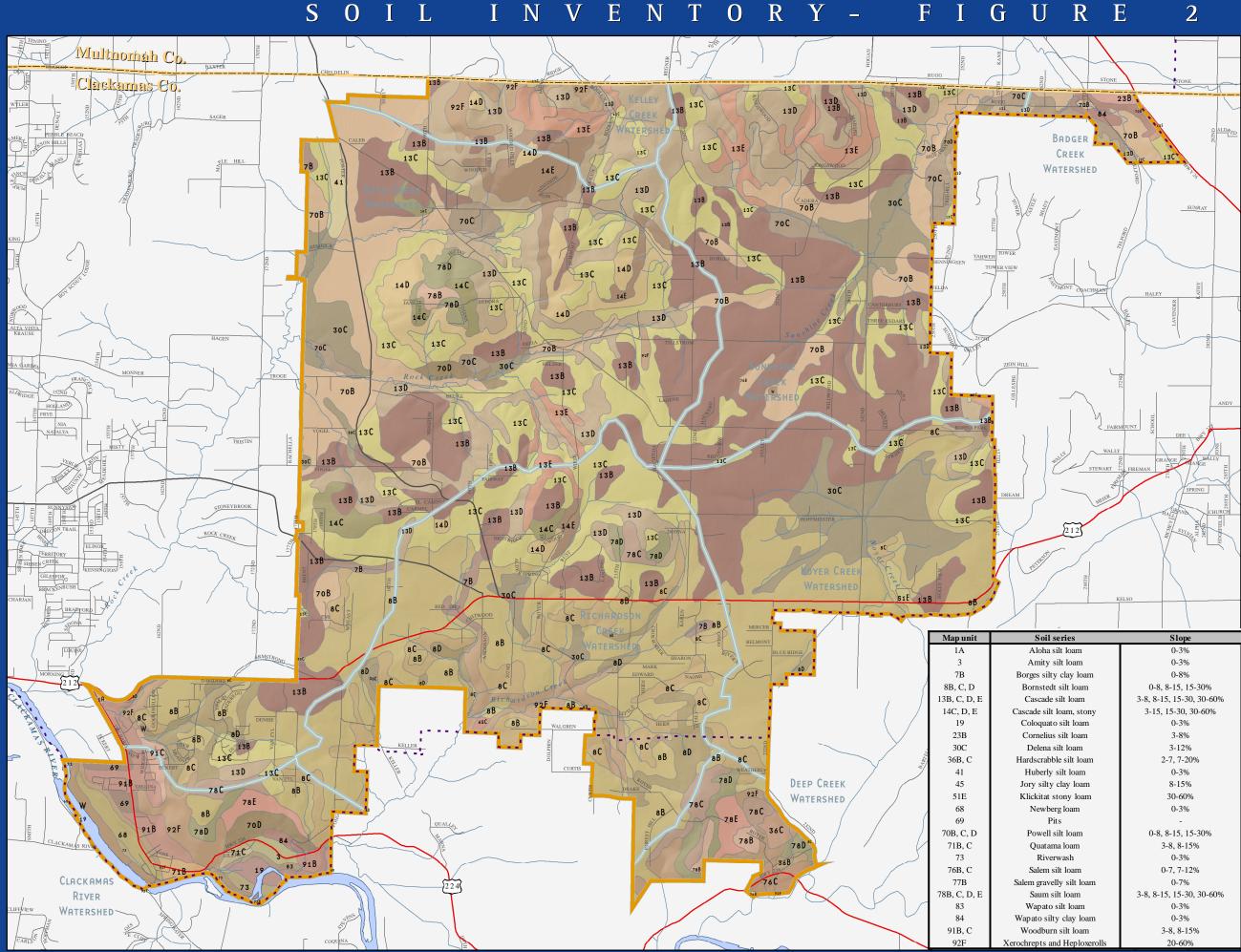
| Analisa Gunnell           | Chief Cartographer and GIS Analyst |
|---------------------------|------------------------------------|
| Project Role:             | Senior GIS Analyst                 |
| Project Responsibilities: |                                    |

Analisa has 5 years of professional GIS and Cartographic experience. Her recent experience includes data creation, compilation and mapping for the Corvallis Natural

Features Inventory and West Linn Goal 5 Inventory. Both studies were led by Winterbrook and included Local Wetland Inventories. She worked extensively with the Oregon Department of State Lands to ensure that all wetland data created for both inventories met the DSL adopted guidelines and rules for conducting LWIs within urban growth boundaries. Analisa also conducted all GIS analysis, data compilation, and map composition for the Sandy Basin Habitat Conservation Plan. Data compilation and assistance in the development of an iterative tool for selecting the key watersheds to anchor the regional salmon recovery efforts in Western Oregon and Washington. Data creation, compilation, management and creation of maps focusing on ownership, tree density and size, as well as data discrepancy between agencies for specified salmon anchor habitats within Oregon and Washington. Before coming to Ecotrust, Analisa was contracted by the Bureau of Land Management to help develop a complete data set for all hydrology resources found on BLM land.



### SOIL INVENTORY-I G U R E F



# Soil data - SSURGO **General Features** Damascus City - Metro, 2007 ...... Urban Growth Boundary -Metro, 2007 County Boundary -Metro, 2007 Watershed Boundary-Winterbrook Planning, 2007 Streams - Winterbrook Planning, 2007 Note: This is a preliminary map, thus data shown is subject to change without notice. Data was compiled from a variety of sources. Map created by Ecotrust June, 2007

Damascus Natural

**Features Inventory** 



Projection: State Plane Oregon North FIPS 3601 Datum NAD83

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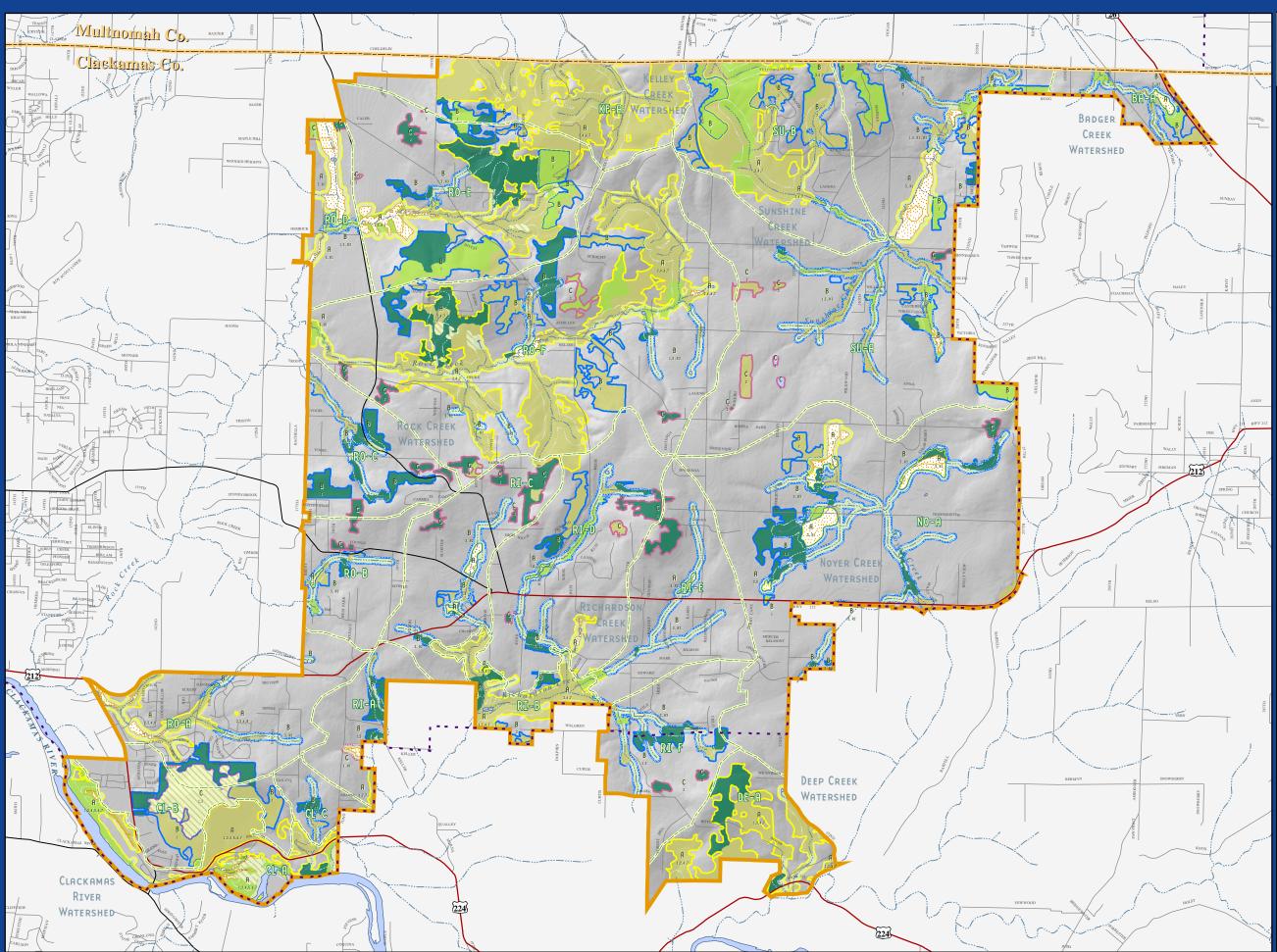
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Miles

WILDLIFE HABITAT AND RIPARIA N CORRIDORS - FIGURE



# 4

# Damascus Natural Features Inventory

## Wildlife Habitat- Winterbrook Planning

Evergreen

Deciduous

Mixed

Shrub/Grassland/Restoration Area

Shrub/Grassland Habitat

Wetland Habitat

**Riparian Corridors** 

## Wildlife Classes

20

**A** 1, 2, 1 Class A B Class B C Class C

## **General Features**

17

Damascus City

**c**13 **County Boundary** 

Urban Growth Boundary

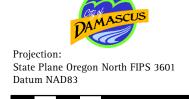
RO-A

**Resource Site** 

Streams - Winterbrook Planning

## ~~~ Note:

Map shows significant Riparian Corridors and Wildlife Habitats, based on significance evaluation factors recommended by the Damascus Natural Features TST. Impact Areas are defined as the entire watershed located outside the resource areas for each site, as recommended by the Damascus Natural Features TST. This is a preliminary map, thus data shown is subject to change without notice. Data was compiled from a variety of sources. Map Created by Ecotrust June, 2007.



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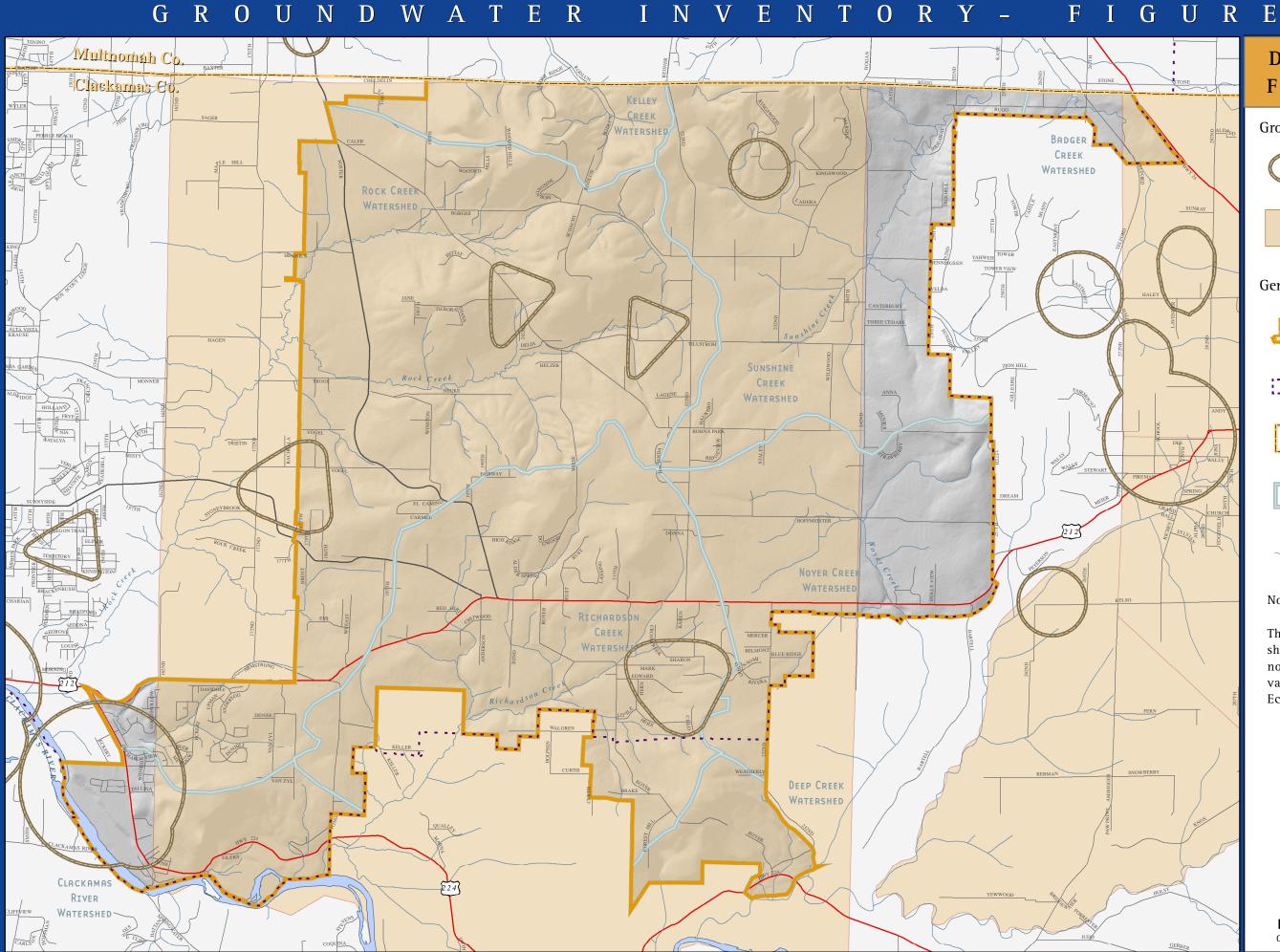
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Miles

G R O U N D W A T E R NTORY -I N V E



# Damascus Natural **Features Inventory**

## Groundwater Features

5



Groundwater Drinking Source Areas-DEQ



Limited Groundwater Area-OWRD

## **General Features**



Damascus City - Metro, 2007

::::::

Urban Growth Boundary -Metro, 2007



County Boundary -Metro, 2007



Watershed Boundary-Winterbrook Planning, 2007



Streams - Winterbrook Planning, 2007

## Note:

This is a preliminary map, thus data shown is subject to change without notice. Data was compiled from a variety of sources. Map created by Ecotrust June, 2007

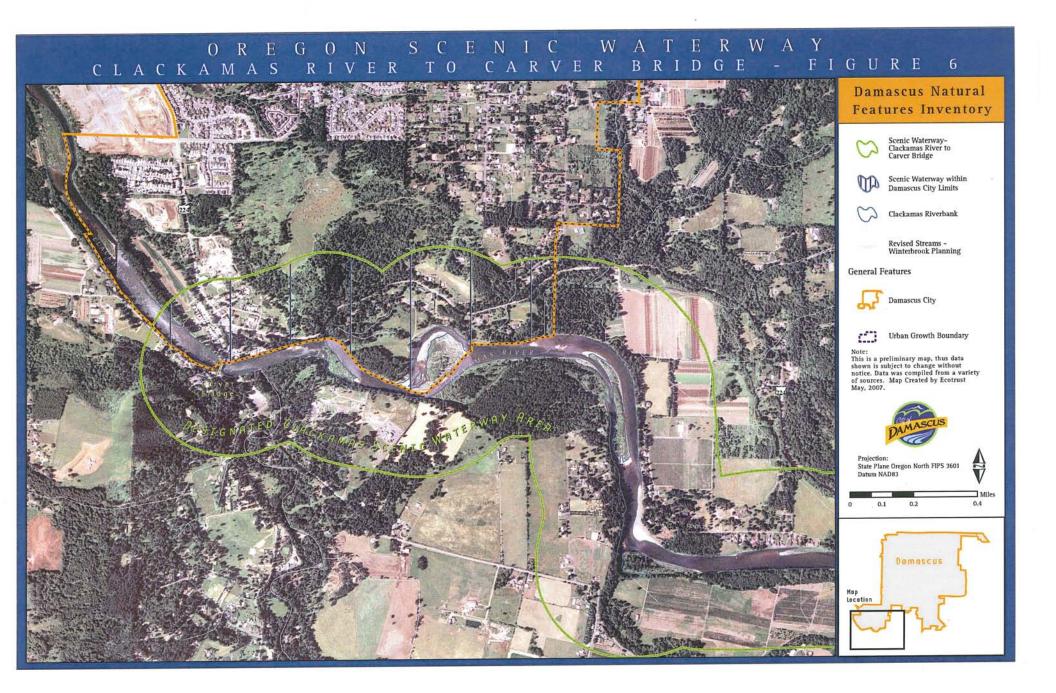


Projection: State Plane Oregon North FIPS 3601 Datum NAD83

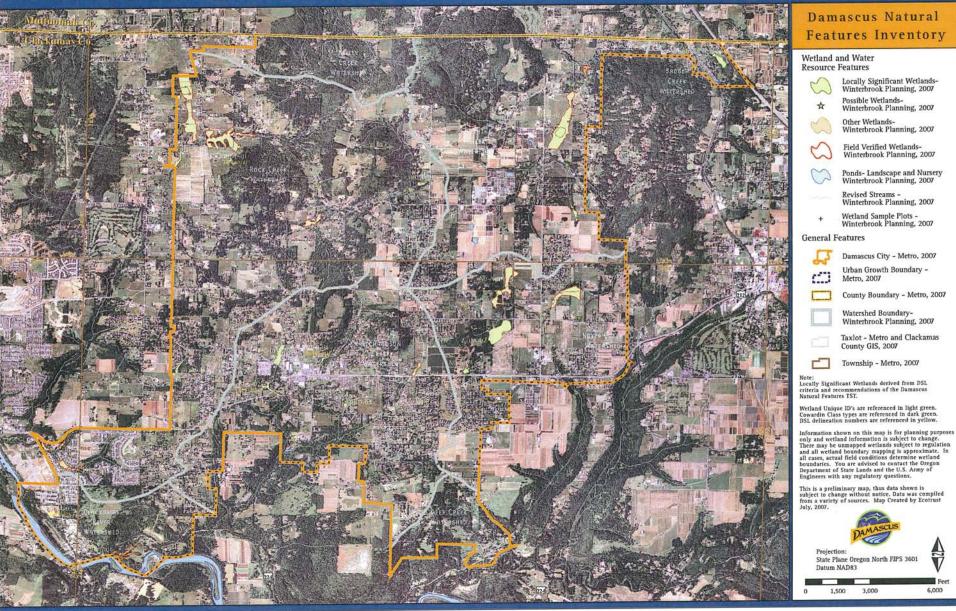


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### RY - FIGURE WATER RESOURCE INV EN 0 AND WETLANDS



Feet 6,000