Tualatin Basin Goal 5 /
Natural Resources

E S E E Analysis

March 2005

Prepared by
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&
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EXECUTIVE SUMMARY

Overview

The Tualatin Basin ESEE analysis is the second step in the Goal 5 process required under Oregon Administrative Rules as implemented within the Portland Metropolitan Region through Metro, the regional planning agency. Metro and thirteen Tualatin Basin local governments worked collaboratively as the *Tualatin Basin Partners for Natural Places* (Partners) to meet an overall goal of improving the environmental health of the basin. This report provides the results of the Partners analysis of the Economic, Social, Environmental and Energy (ESEE) consequences of allowing, limiting or prohibiting conflicting uses within significant **Riparian Corridor** and **Wildlife Habitat** resources and their impact areas within the **Tualatin Basin ESEE Study Area**. This report was developed in compliance with State Goal 5 rules and in coordination with Metro's Goal 5 planning efforts. In addition, the Basin Approach (Appendix A) considers factors outside the Goal 5 Administrative Rules, such as the Endangered Species Act (ESA) and Clean Water Act (CWA). In the Tualatin Basin, these federal rules are being coordinated by Clean Water Services (CWS), one of the partner agencies in this process.

Tualatin Basin Partners for Natural Places

- Metro
- Clean Water Services
- Tualatin Hills Parks and Recreation District
- Washington County
- The cities of:
  - Beaverton
  - Cornelius
  - Durham
  - Forest Grove
  - Hillsboro
  - King City
  - North Plains
  - Sherwood
  - Tigard
  - Tualatin

ESEE Analysis

As discussed in Chapter 3, the Tualatin Basin ESEE analysis addresses:

- Riparian Corridors (OAR 660-023-0090)
- Wildlife Habitat (OAR 660-023-0110)
- Inner and Outer Impact Areas

After significant resource sites were identified, land uses that *conflict* with Goal 5 resource sites (known as "**conflicting uses**") were identified (see Chapter 2). The economic, social, environmental, and energy consequences of allowing or not allowing conflicting uses were then considered. The ESEE analysis is the basis of the basin's determination of whether to:

- **Allow** conflicting uses,
- **Limit** (Lightly, Moderately, Strictly) conflicting uses, and/or
- **Prohibit** conflicting uses.

This ESEE analysis reviews the consequences of "allow", "limit" and "prohibit" decisions. It is important that the methodology and factual justification are useful to Basin decision-makers and are capable of withstanding legal challenge. The ESEE decision and findings lead to a program that is the means to achieve a balance between the potentially competing ramifications of allowing conflicting uses and the conservation, protection and restoration of the natural resources. The Tualatin Basin ESEE decision about which areas to prohibit, limit or allow conflicting uses within the Tualatin Basin will be made by the local participating governments, through the Tualatin Basin Natural Resource Coordinating Committee, after consideration of public comments, including Metro Council input and recommendations.

As described in Chapter 2 and summarized in **Table ES-1** below, four Conflicting Use Categories (based upon planned land-use / zoning classifications) have been established for this ESEE analysis:

Table ES-1
Conflicting Use Categories

Category	Zones/Areas Included	Acres
1) High Intensity Urban	▪ Commercial (COM) ▪ Industrial (IND) ▪ Mixed-Use (MU) ▪ Regional Centers, Town Centers and Station Community Areas	21,461
2) Other Urban	▪ Residential (SFR, MFR) ▪ Other (INST, PF)	51,767
3) Future Urban	▪ 2002 UGB Expansion Areas	3,423
4) Non-Urban	▪ Farm/Forest (FF) ▪ Rural (RUR, RR)	54,136
TOTAL ACRES		**130,786**

The ESEE Analysis for the Tualatin Basin study area was conducted at two levels (see Chapter 3). The primary analysis, referred to as the General or Basin-wide analysis, provides a generalized ESEE analysis of the four conflicting use categories identified for the Basin study area. The unique circumstances associated with the occurrence of each of five resource categories in each of four conflicting use categories is considered. The resulting twenty Analysis Categories were then analyzed to consider the pros and cons of allowing, limiting or prohibiting conflicting uses in areas with or adjacent to significant regional resources. In the Tualatin Basin study area, there are no "allow" or "prohibit" decisions for areas with significant resources and, although lands generally distant from significant resources are provided a recommendation to "allow" conflicting uses, the overall program concept is designed to reduce the overall environmental impact of those uses. This Basin-wide analysis thereby prescribes an appropriate level of "limit" to each Analysis Category. Three different levels of "limit" are incorporated, namely Lightly, Moderately and Strictly Limit. The results are summarized in **Table ES-1** and **Figure ES-1**, below.

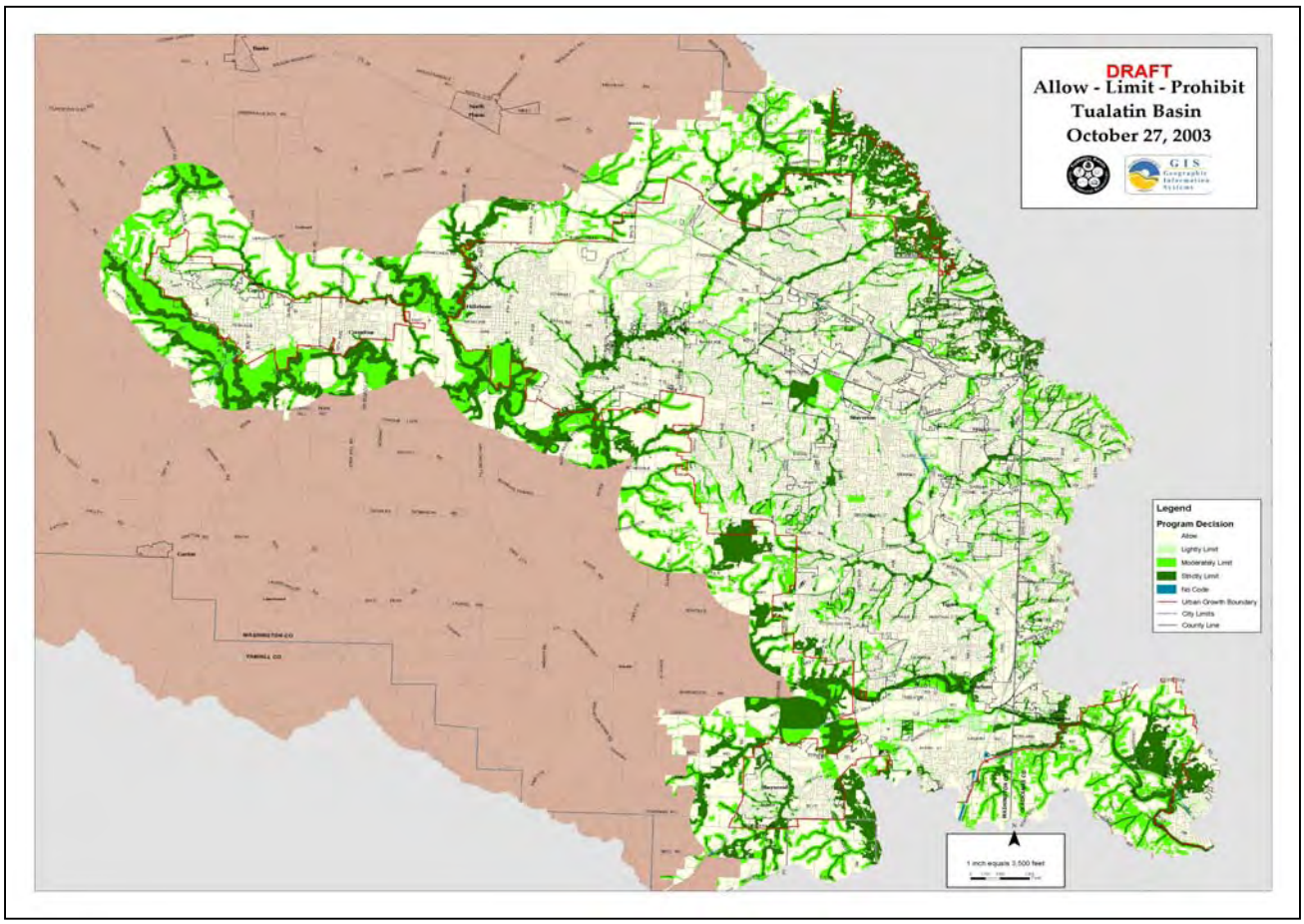
Table ES-1
Summary of General ESEE Recommendations
Cross Tabulation of Conflicting Use and Environmental Categories

Environmental Category		Conflicting Use Category			
		1	**2**	**3**	**4**
		High Intensity Urban	Other Urban	Future Urban	Non-Urban
A	Class I resource	1A	2A	3A	4A
B	Class II resource	1B	2B	3B	4B
C	Class III resource	1C	2C	3C	4C
D	Inner Impact Area	1D	2D	3D	4D
E	Outer Impact Area	1E	2E	3E	4E

Legend

Prohibit	
Strictly Limit	
Moderately Limit	
Lightly Limit	
Allow	

Figure ES-1 Map of General ESEE Recommendation



The secondary level of analysis (Chapter 4) is performed at a Local or Site level, with sites defined as encompassing a single streamshed. The purpose of the Site level analysis is to evaluate the specific conditions of each streamshed to ascertain whether or not the recommended Basin ALP decision is appropriate. In some cases, unique situations warrant a limited adjustment to the Basin ALP decision. Criteria for allowing adjustments are described in Chapter 4. In addition, a site-level ESEE analysis report is included for each of the sixty-nine local sites (streamsheds) in the Basin study area.

In conducting the site-level analysis, the Partners identified several concerns that were more appropriately addressed as a program consideration for the Basin as a whole than as a site-specific ALP adjustment. These additional program considerations are discussed in Chapter 5.

Program Development

Following acknowledgement of the ESEE Report by the Tualatin Basin Natural Resources Coordinating Committee, the next step was to develop a "program" to implement the ESEE recommendations to Allow, Limit, or Prohibit conflicting uses within resource and impact areas. During the program phase, the Partners worked to develop ways to achieve the goals of both complying with the requirements of the Goal 5 Rule and meeting the Partners overall goal to improve environmental quality in the basin while meeting ESA and CWA requirements. The ESEE informs

the program phase, and vice versa by reviewing conflicting uses, and narrowing the parameters of what should occur within the Goal 5 resource areas. The program describes both regulatory and non-regulatory measures to achieve the stated goals.

ESEE Analysis – Part Two

In response to new direction from Metro, in the fall of 2003 the Tualatin Basin Natural Resources Coordinating Committee determined that the Partners should modify the program approach and ALP decision. The rationale for this is discussed in Chapter 6, along with additional analysis and conclusions to update the ESEE analysis.

As discussed in Chapter 6, the revised Program is designed to meet all of the goals established by the partners. As well, the "Basin Approach" (Appendix A) includes monitoring and evaluation activities that are required at the regional, state and federal levels which will assure that those goals continue to be met in the future.

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Appendix B OAR Chapter 660, Division 23: LCDC Procedures and Requirements for Complying with Goal 5

CHAPTER 1 INTRODUCTION AND POLICY CONTEXT

A. Project Overview

Purpose

Oregon's nineteen statewide planning goals are the framework for local planning programs in the State. The purpose of Goal 5, Oregon Administrative Rule (OAR) 660-015-0000(5) is to protect natural resources and conserve scenic and historic areas and open spaces. Local governments, both counties and cities, must address Goal 5. In addition, the Goal 5 rule provides for a "Regional" Goal 5 process to be conducted by the Metropolitan Service District (Metro).

The steps necessary for compliance with Goal 5 are described in OAR 660, Division 23 Procedures and Requirements for Complying with Goal 5. However, in general, the basic steps include:

Step 1. Map Significant Regional Resources. The Metro has adopted Resolution 01-3141C establishing criteria to define and identify regionally significant riparian corridors and wildlife habitat relating to the inventory phase of the Goal 5 aspects of its Fish and Wildlife Habitat Protection Program. The Tualatin Basin ESEE analysis is based on Metro's inventory of Riparian Corridors and Wildlife Habitat which have been determined to be regionally significant consistent with State Goal 5. Clean Water Act requirements and Endangered Species Act listings are also addressed in a basin approach.

Step 2. ESEE Analysis. The Economic, Social, Environmental and Energy (ESEE) Analysis:

- Identifies Conflicting Uses (see Chapter 2); and
- Analyzes the Economic, Social, Environmental, and Energy consequences of Allowing, Limiting, or Prohibiting conflicting uses (see Chapters 3 and 4).

The outcome of ESEE is a decision to "Allow", "Limit (Lightly, Moderately, Strictly)", or "Prohibit" conflicting uses. The ESEE analysis provides the findings and the basis for Step 3: the program.

> This document represents the second step in the Goal 5 process described above. It provides an analysis of the Economic, Social, Environmental and Energy (ESEE) consequences of allowing, limiting or prohibiting conflicting uses within significant **Riparian Corridor** and **Wildlife Habitat** resources and their impact areas within the **Tualatin Basin ESEE Study Area** in compliance with State Goal 5 and in coordination with Metro's Goal 5 planning efforts.

Step 3. Develop a Program to implement the ESEE decision. During the program phase, local governments will develop ways to achieve the goal of the Goal 5 process. The ESEE informs the program phase, and vice versa by reviewing conflicting uses, and narrowing the parameters of what should occur within the Goal 5 resource areas. The program will describe measures to achieve the stated goal. These measures may include regulation, acquisition, education, as well as environmental capital project planning and financing. The ESEE will review the consequences of specific program elements. In addition, the Basin Approach considers factors outside the Goal 5

Administrative Rules, such as the Endangered Species Act (ESA) and Clean Water Act (CWA). In the Tualatin Basin, these federal rules are being coordinated by Clean Water Services (CWS) as described below in the discussion of Coordination with Other Agencies – Clean Water Services.

Tualatin Basin Partners for Natural Places

"Partners for Natural Places" is the name of the collective community efforts underway to improve the natural environment. The Partners' work will lead to programs to conserve, protect and restore streams and waterways, to support healthy fish and wildlife habitat. Tualatin Basin Partners for Natural Places is an alliance of local governments in Washington County working together with Metro to meet federal and state requirements for protecting natural resources in the Tualatin Basin. The draft Tualatin Basin ESEE Analysis has been prepared by the Tualatin Basin Partners, through their participation by elected officials in the Tualatin Basin Natural Resource Coordinating Committee (TBNRCC) and by technical staff in the Tualatin Basin Steering Committee (TBSC):

Tualatin Basin Partners
• Clean Water Services
• Metro
• Tualatin Hills Parks and Recreation District
• Washington County, and
• The cities of: o Beaverton o Cornelius o Durham o Forest Grove o Hillsboro o King City o North Plains o Sherwood o Tigard o Tualatin

The Tualatin Basin Partners developed the "Basin Approach" (Appendix A) wherein local governments in the Tualatin Basin have worked together to develop a more detailed ESEE analysis and ultimately develop a program designed to protect and enhance significant resource areas and improve the overall environmental health of the Basin.

The Basin Approach

The Basin Approach provides an opportunity to coordinate concurrent, joint efforts by the Tualatin Basin governments, Clean Water Services and others to address Federal Clean Water Act requirements and Endangered Species Act listings that likely will affect the same areas as Metro's fish and wildlife habitat protection plan. In addition to reducing the number of times that the same areas are analyzed and public outreach provided and applying more detailed information than is readily available region-wide, the Basin Approach allowed for coordination among similar, but distinct Federal, State and

regional requirements. The Basin Approach also provided local governments with an opportunity to shape a basin-wide program that is tailored to local conditions within the Tualatin River basin while addressing regional Goal 5 objectives.

The following is the goal statement from the Basin Approach document:

> *Metro's fish and wildlife vision articulates the overriding goal of the Basin Approach:*
>
> *"The overall goal is to conserve, protect and restore a continuous ecologically viable streamside corridor system, from the streams' headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with the surrounding urban landscape. This system will be achieved through conservation, protection and appropriate restoration of streamside corridors through time."*
>
> *Improvement of habitat health within each of the Region's 27 hydrologic units including the eleven hydrologic units inside the Tualatin Basin shall be a primary objective of the Basin Approach. The following objectives within Metro's Fish and Wildlife Habitat Vision Statement shall be pursued by the Basin Approach: to sustain and enhance native fish and wildlife species and their habitats; to mitigate high storm flows and maintain adequate summer flows; to provide clean water; and to create communities that fully integrate the built and natural environment. The region wide system of linked significant fish and wildlife habitats will be achieved through preservation of existing resources and restoration to recreate critical linkages, as appropriate and consistent with ESEE conclusions about whether to prohibit, limit or allow conflicting uses within a regionally significant resource site. Avoiding any future ESA listings is another primary Basin Approach objective.*

B. Tualatin Basin Goal 5 ESEE Process

As noted above, this document represents the second step in the Goal 5 process. It provides an analysis of the Economic, Social, Environmental and Energy (ESEE) consequences of allowing, limiting or prohibiting conflicting uses within significant **Riparian Corridor** and **Wildlife Habitat** resources and their impact areas within the **Tualatin Basin ESEE Study Area** in compliance with State Goal 5 and in coordination with Metro's Goal 5 planning efforts.

After significant resource sites were identified, land uses that *conflict* with Goal 5 resource sites (known as "**conflicting uses**") were identified (see Chapter 2). The economic, social, environmental, and energy consequences of allowing or not allowing conflicting uses were then considered. The ESEE analysis is the basis of the basin's determination of whether to:

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The Tualatin Basin ESEE analysis is presented in two sections and at two levels of detail:

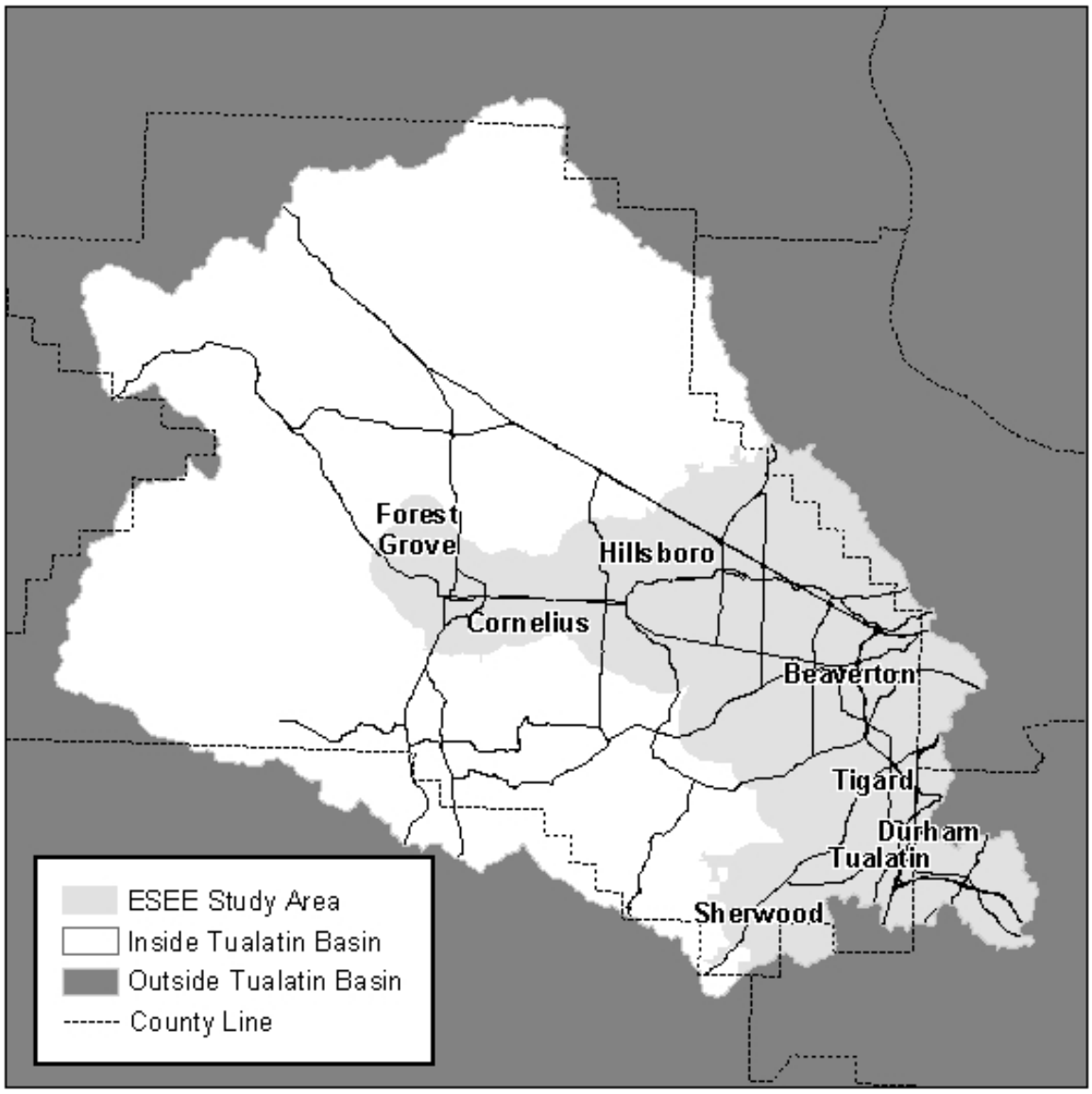
- Chapter 3 provides a "general" ESEE analysis that describes the ESEE consequences in broad terms applicable to the entire study area. This section of the analysis establishes a "baseline" of the general economic, social, environmental and energy consequences.

- Chapter 4 includes the *Site Specific ESEE Analyses*, which describes the specific conflicting uses and the ESEE consequences for each Goal 5 resource site and related impact areas. The site-specific analyses build on the general analysis in Chapter 3. For each site, the consequences are assumed to be the same as described in the general analysis unless site-specific conditions require a different conclusion. For example, the general recommendation to "Limit" conflicting uses may be modified for all or a portion of a regional site, when circumstances unique to the site warrant a greater or lesser degree of protection.

Tualatin Basin ESEE Study Area

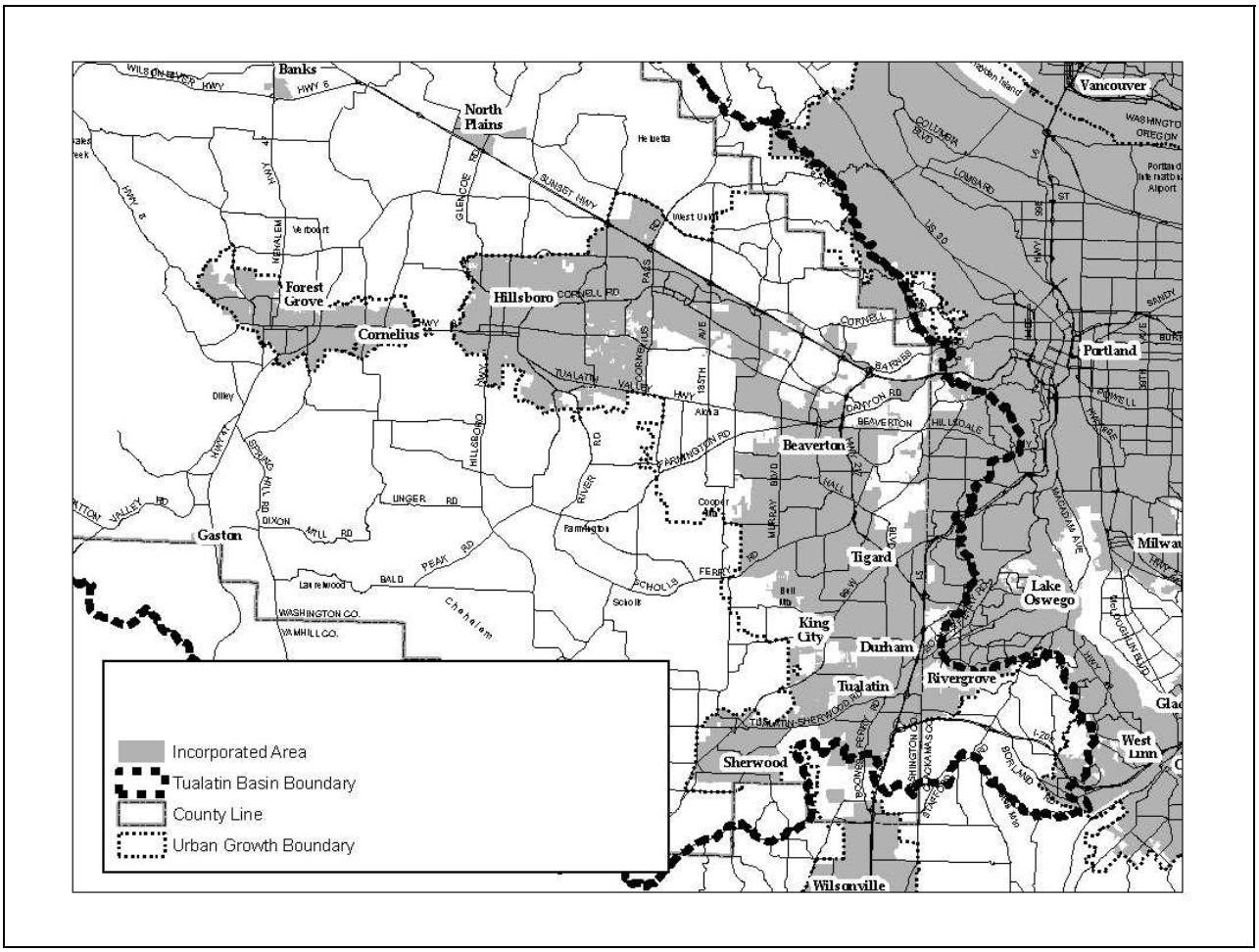
The general geographic extent of the Basin Approach is the land area draining to the Tualatin River. The basin falls primarily within Washington County and its incorporated cities. However, as shown in **Figure 1-1**, portions of the Tualatin Basin also fall within unincorporated Tillamook, Yamhill, Columbia, Multnomah and Clackamas counties and the cities of Lake Oswego, Portland, River Grove and West Linn as well. A more detailed map of affected jurisdictions in the urban portion of the Basin is shown in **Figure 1-2.**

Figure 1-1 Tualatin Basin



For the purposes of the ESEE analysis, the Tualatin Basin ESEE Study Area is limited to those areas of the Tualatin River basin within the UGB and lands within one mile of the Metro jurisdictional boundary. Those rural, farm and forest lands which are more than one mile from the UGB have not been included in the ESEE Study Area due to limitations on the availability of Goal 5 inventory data. However, these areas may be subject to other natural resource protections pursuant to local, regional, state and federal regulations, including protections developed pursuant to State Planning Goals 6 and 7 and other water quality efforts implemented by CWS.

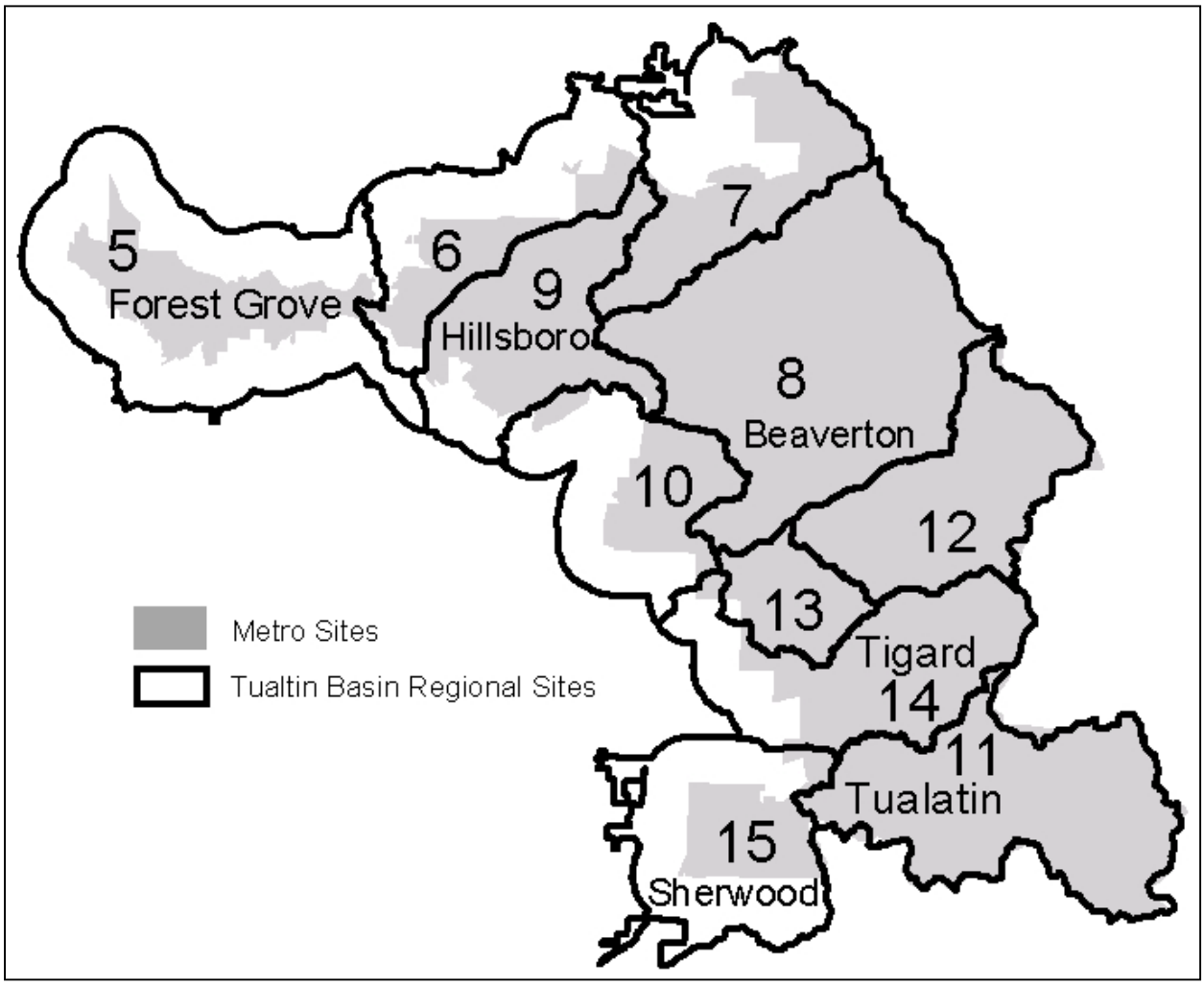
Figure 1-2 Jurisdictions within the Tualatin Basin ESEE Study Area



Resource Sites

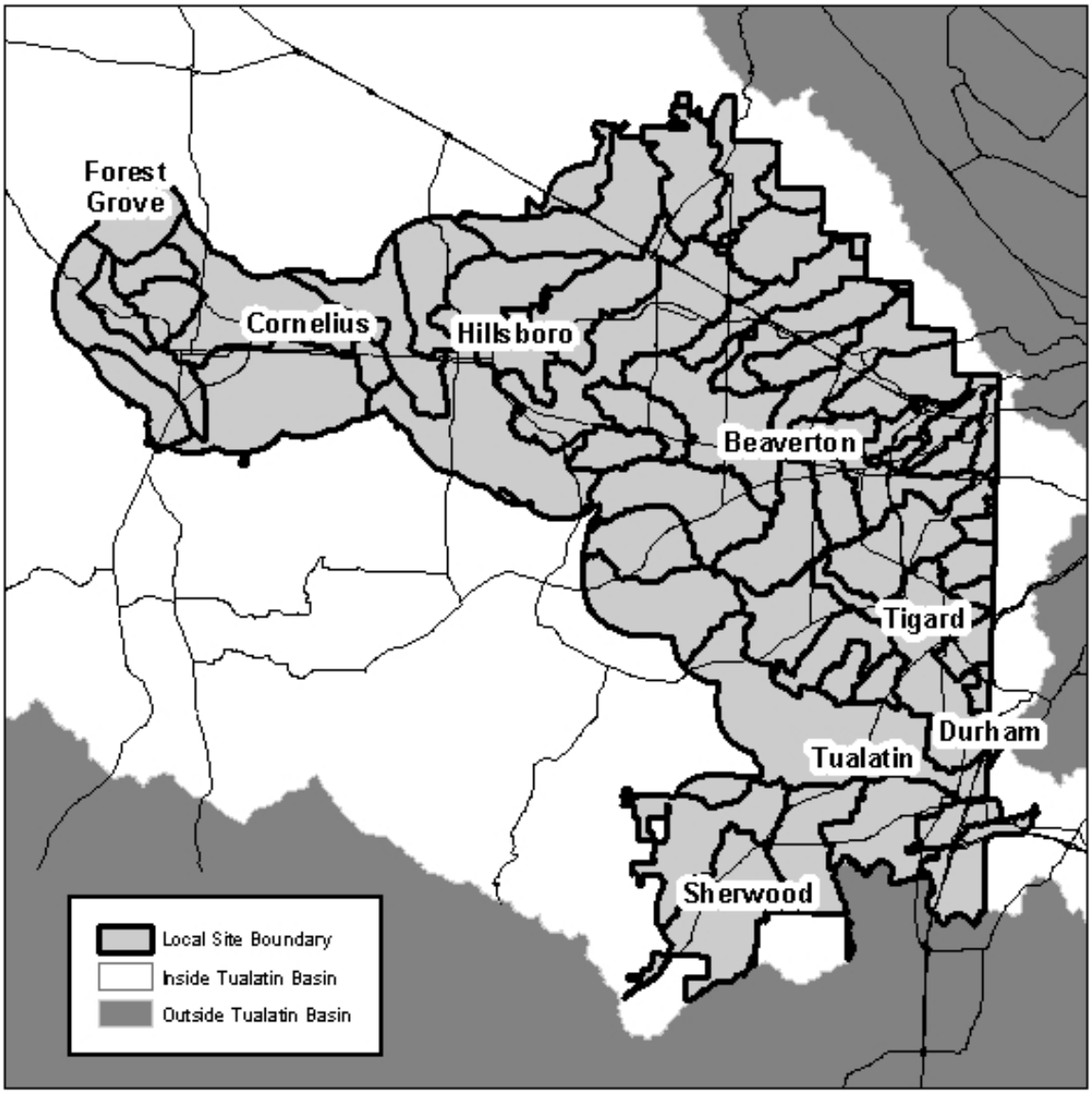
The Goal 5 rule defines a "Resource site" or "site" as a particular area where resources are located. A site may consist of a parcel or lot or portion thereof or may include an area consisting of two or more contiguous lots or parcels. Metro has divided the entire region into twenty-seven "Regional Sites" for use in its Goal 5 Inventory. The Metro "Regional Sites" were developed using 5th and 6th field watershed mapping. The exterior boundaries of Metro's sites are established by the Metro jurisdictional boundary. Eleven of Metro's sites fall within the Tualatin Basin and form the basis for the "Tualatin Basin Regional Sites" as used in this ESEE analysis.

Figure 1-3 Regional Sites



Since the Metro sites were developed using datasets that are different than those available from CWS, some minor discrepancies exists between the boundaries of the Metro Sites and the boundaries of the Tualatin Basin Regional Sites. In addition, as shown on **Figure 1-3**, the exterior boundary of the Tualatin Basin Regional Sites (regional sites) extends into the rural area one mile beyond Metro's jurisdictional boundary. Further, for the purposes of Chapter 4, the Tualatin Basin Study Area has been further divided into sixty-nine "local" sites, which are generally based on streamshed boundaries as shown in **Figure 1-4**. These smaller sites provide an opportunity to evaluate the ESEE consequences of allowing, limiting or prohibiting conflicting uses at a more detailed level than is possible at the regional scale.

Figure 1-4 Streamshed Sites



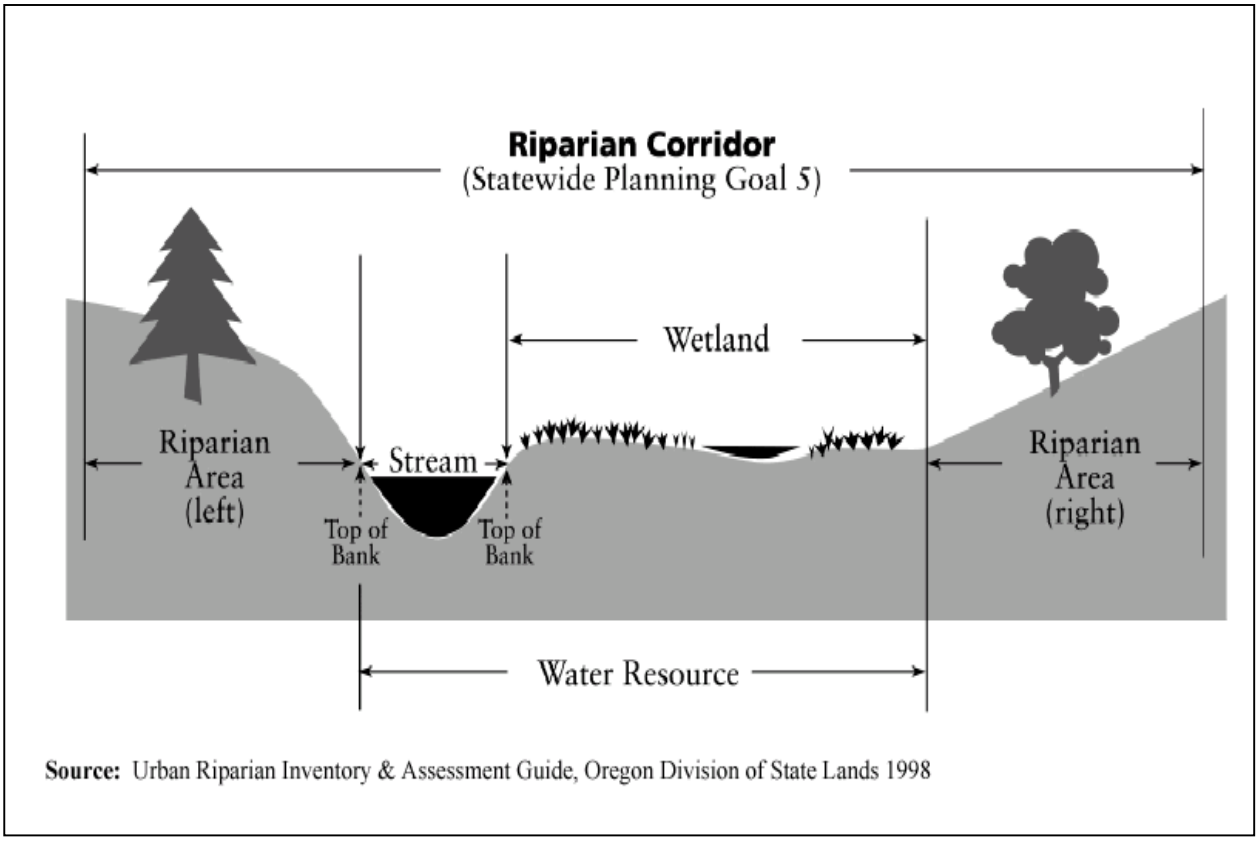
Resources Considered in the Tualatin Basin ESEE

The Tualatin Basin ESEE analysis addresses:

- Riparian Corridors (OAR 660-023-0090), and
- Wildlife Habitat (OAR 660-023-110).

Riparian Areas. Riparian area is defined in the Goal 5 rule as "the area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem." A "Riparian corridor" is "a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary". A "Riparian corridor boundary" is "an imaginary line that is a certain distance upland from the top of bank…"

Figure 1-5 Riparian Corridor



The Goal 5 riparian corridors provide essential habitat for many fish and wildlife species during critical life stages. They provide basic food and shelter and serve as travel corridors for the movement of fish and wildlife across the landscape. The corridors protect water quality as non-point source stormwater runoff is filtered before it flows into streams. A well-vegetated corridor can moderate stream temperatures.

The importance of riparian corridors includes:

- Food, shade, and shelter for aquatic organisms. Riparian vegetation provides detritus, or organic matter, which breaks down and provides food for aquatic invertebrates. Shade from riparian vegetation helps maintain cool water temperatures in pools. In addition, fallen branches, large woody debris and aquatic plants provide habitat for instream fauna such as native fish and other macroinvertebrates.

- Bank and bed stability. Native riparian vegetation is important in the prevention of excessive streambank erosion. Vegetation binds soil and provides "roughness" that reduces flow rates, particularly during flood events. Vegetation (roots) at the "toe" of riverbanks is especially important to riverbank stability, particularly on outside bends of meanders and on other banks where flow is deflected.

- Buffer to nutrients and sediment. Vegetated riparian zones maintain water quality by filtering sediment and nutrients, and reducing the amounts entering a watercourse. Any vegetation that provides a dense cover at ground level will be an effective buffer.

- Aesthetic benefit and intrinsic value. Riparian vegetation has an inherent aesthetic and intrinsic worth that is difficult to value in monetary terms. Different people value the aesthetic or intrinsic features of riparian areas differently. This often depends on their association with and understanding of these areas. For many landowners, the aesthetic appeal of trees is a primary motivation for wanting to manage river and creek systems.

- Stream channel morphology and habitat. Large wood recruited to small and medium streams from riparian forests can play a major role in forming and maintaining stream channel morphology. Large wood also provides in-stream structure that is an important aquatic habitat component.

The environmental impacts of *allowing* conflicting uses on riparian corridors include:

- The introduction of residential uses into riparian corridors may lead to severe and wide-ranging impacts to the resource. The typical lawns and landscaping that are present around houses may include the use of non-native and invasive plants that can overcome native species in riparian areas, household fertilizers and pesticides that find their way directly into the stream or indirectly through groundwater.

- Development also results in additional impervious areas that carry stormwater into the stream channel. When the stormwater does not infiltrate into the ground or pass through a riparian corridor, it is not filtered and as a result increased levels of pollutants are released into the water channel. Impervious surfaces can also contribute to the raised temperature of streams by allowing the water to be warmed before it is released in the channel.

- Domestic pets often associated with residential use can contribute to the pollution of stream corridors and disturbance or loss of native wildlife. Without healthy, intact, and properly functioning riparian corridors the waste from these animals can flow into the stream channel. This can cause nutrient loading and impact healthy habitats and also contribute pathogens including such as e-coli bacteria and others into the water supply. Without the filtration of the riparian corridor, these pollutants can cause direct harm to both native wildlife species and humans.

- Commercial and industrial uses pose similar conflicts. The disturbance of riparian vegetation and/or the alteration of the stream channel or wetland area will impact the functions and values rated in this study. Although conflicts may be similar, often times the conflict is magnified in commercial and industrial developments due to larger areas of impervious surfaces in the form of maximized lot coverage, increased roof surface areas, and large paved parking areas. In addition, the presence of hazardous materials may impose a highly variable, but potential large impact to the mapped resource units.

The environmental impacts of *limiting* conflicting uses on riparian corridors include:

- Conflicting uses that impair the functions and values of a resource site may be "limited" by the application of development standards (such as buffers where development is prohibited or severely limited) or standards that allow some conflicting uses to occur conditionally, such as through a conditional use permit. For example, the jurisdiction may chose to map "overlay zones" that identify areas that have special regulations. When a development application is submitted, the local jurisdiction can either permit the development if it avoids the overlay area, or place conditions of approval on the development approval. Development standards may allow certain conflicting uses when the ESEE analysis shows that the resource will not suffer adverse impacts to the functions and values. Limiting conflicting uses through such approvals is a form of managing Goal 5 natural resources and will be addressed during the program phase of this Goal 5 project.

The environmental impacts of *prohibiting* conflicting uses on riparian corridors include:

- In general, the prohibition of conflicting uses is positive from the perspective of environmental impacts on the functions and values of the natural resources and impact areas. If conflicting uses are prohibited in natural areas through natural resource regulations, the areas will remain undisturbed, which is one of the best ways to preserve natural areas. However, if all conflicting uses are prohibited, jurisdictions may lose an important opportunity to work cooperatively with the citizens, landowners, and developers to enhance and restore natural resources as part of new development proposals.

Wildlife Habitat. Through the use of Geographic Information Systems (GIS), Metro created a model of upland wildlife habitat. The wildlife habitat assumptions included:

- Large patches are better than smaller patches
- Interior habitat is more important to at-risk species than edge habitat
- Connectivity to other patches is important
- Connectivity and/or proximity to water is important
- Unique or at-risk habitats that deserve special consideration

Each of the wildlife criteria or characteristics was modeled in the study area and the aggregate score was mapped. Additionally, Habitats of Concern (HOC) were mapped for known sensitive and at-risk locations in the region. This information was collected from a variety of agencies, citizens, groups, and other sources of habitat information. In addition, isolated wetlands less than two acres were included as HOC's. The Goal 5 "Wildlife Habitat" natural resource provides for the food and shelter requirements of wildlife in the area including small mammals, birds, and others found in the study area. Riparian corridors and wildlife habitat share many functions and values. Although fish are considered wildlife too, for this analysis, fish habitat is considered as part of the riparian corridor discussion.

Anecdotal reports of wildlife and incidental sightings of wildlife during the field inventory include the following:

- Amphibians and Reptiles: Pacific chorus (tree) frog, bullfrog, snakes.

- Birds: numerous birds of prey, song birds, migratory birds, game birds, etc., including great blue heron, nesting green-backed heron, nesting egret, nesting Canada geese, nesting wood ducks, nesting mallards, other ducks, bald eagle, redtail hawk, rough-legged hawk, American

kestrel, ringneck pheasant, gulls, mourning dove, owls (barn owl and others, probably great horned and western screech), belted kingfisher, woodpeckers (downy, northern flicker, others), violet green swallow, Stellar's jay, scrub jay, American crow, blackcap chickadee, marsh wren, American robin, cedar waxwing, European starling, song sparrow, golden-crowned sparrow, redwing blackbird, American goldfinch, and nesting peacock.

- Fish: rainbow trout, largemouth bass, sunfish, Gambusia (mosquitofish). In addition, the Oregon Department of Fish and Wildlife (ODFW) has identified the following fish species in the Tualatin River basin: steelhead and chinook salmon (Upper Willamette River ESU), coho salmon, cutthroat trout, Pacific lamprey, and western brook lamprey.

- Insects: dragonflies and damselflies

- Mammals: beaver, coyote, fox, deer, nutria, raccoon, skunk

- Mollusks: freshwater snail

It should be noted that this is a very incomplete list and further information is available from Jackson Bottom Wetlands Preserve and other jurisdictional wildlife inventories.

The environmental impacts of *allowing* conflicting uses on wildlife habitat include:

- Conflicting uses introduce impacts to wildlife habitat by placing dwellings, accessory structures, commercial and industrial structures and other related uses in the wildlife habitat areas. In combination with edge effects that result from clearing forested areas for homes and other buildings, native species are often displaced by the human inhabitants. Pets and other domestic animals that are often associated with residential uses can also result in wildlife habitat impacts, as well as impact to individual wildlife populations.

- Roads and utility corridors can fragment wildlife habitat into portions too small to support many native wildlife species, and can create barriers to mitigation and other wildlife movements. Roads also introduce motorized vehicles, which can increase the mortality rate (i.e. cause decreases in populations) of wildlife species.

- Allowing conflicting uses can result in the introduction of non-native plants and animals, many of which are invasive and can quickly become dominant, thereby reducing the populations of, or excluding native species. Some of these exotic plants become near monocultures, thus reducing habitat diversity and favoring a few wildlife species.

- Partial tree clearing for residential development may result in adverse effects to remaining canopy trees through exposure to wind, and can also result in the proliferation of shade-intolerant invasive species, such as Himalayan blackberry. Clearing and construction activities can greatly effect soil structure and the surface organic layer ("duff") important to forested ecosystems.

The environmental impacts of *limiting* conflicting uses on wildlife habitat include:

- Conflicting uses that impair the functions and values of a resource site may be "limited" by the application of development standards (such as buffers where development is prohibited or severely limited) or standards that allow some conflicting uses to occur conditionally, such as though a conditional use permit. For example, the jurisdiction may chose to map "overlay zones" that identify areas that have special regulations. When a development application is submitted, the local jurisdiction can either permit the development if it avoids the overlay area, or place conditions of approval on the development approval. Development standards may allow certain conflicting uses when the ESEE analysis shows that the resource will not suffer adverse impacts to its functions and values. Limiting conflicting uses through the land-use approval process is a form of managing Goal 5 natural resources.

The environmental impact of *prohibiting* conflicting uses on wildlife habitat include:

- In general, the prohibition of conflicting uses is positive from the perspective of environmental impacts on the functions and values of the natural resources and related impact areas. If conflicting uses are prohibited in natural areas through natural resource regulations, the areas will remain undisturbed, which is one of the best ways to preserve natural areas. However, if all conflicting uses are prohibited, jurisdictions may lose an important opportunity to work cooperatively with the citizens, landowners, and developers to enhance and restore natural resources as part of new development proposals.

Impact Areas

The Goal 5 rule directs that an impact area be delineated for significant natural resources in order to identify the area for the ESEE consequences analysis. The only guidance given in the Goal 5 rule for determining impact areas is that the impact area shall be drawn to include only the area in which allowed uses could "adversely affect" the identified resource. The impact area defines the geographic limits within which to conduct the ESEE analysis for the identified significant resource site. In addition, any regulatory program that may result from the Goal 5 process must be limited to those areas mapped as significant Goal 5 resource sites and impact areas.

For the purposes of the Tualatin Basin ESEE analysis two types of Impact Areas have been identified:

- Inner Impact Areas. The inner impact areas are comparable to the impact areas established by Metro for the purposes of the Regional ESEE analysis. It includes:
  - The area within 150 feet of a stream, wetland or lake that is not within a significant resource site; and
  - The area within 25 feet of Wildlife Habitat and HOC significant resource sites and within 25 feet of the edge of remaining Riparian Corridor significant resource sites (not already covered in first part)

- Outer Impact Areas. The outer impact areas include all land within the Tualatin Basin ESEE Study Area which is not within a resource or an inner impact area. Establishing outer impact areas supports a watershed approach and may be utilized in the management of overall Effective Impervious Area within the Basin. Literature cited throughout Metro's work establishes a nexus between the levels of general development throughout watersheds to the viability of significant resources. For example, Booth and Jackson, 1997, establish that altered hydrology and increased impervious surfaces increase flooding and damage streams.

Recognizing that riparian corridor and wildlife habitat health is the responsibility of the entire watershed will enable the impacts of any eventual program to be more equitably shared among beneficiaries and property owners.

C. Coordination with Other Agencies and Related Projects

Metro's Regional ESEE

As noted above, the Goal 5 rule provides for a "Regional" Goal 5 process to be conducted by Metro. Specifically, OAR 660-023-0080 defines "regional resources" and authorizes Metro to adopt one or more regional functional plans to address all applicable requirements of Goal 5 and the OAR for one or more resource categories. Ultimately, the program requirements for Metro's Goal 5 work will become part of the Urban Growth Management Functional Plan (Functional Plan), specifically, Title 3, Section 5. Once adopted by the Metro Council and acknowledged, the Functional Plan text will become part of the Metro Code and local governments will be required to take actions and/or show "compliance" with its provisions. The Metropolitan Service District (Metro) began conducting a Goal 5 process for the area within its service boundaries in 1999. In 2002, Metro adopted an inventory for Regionally Significant Riparian Corridors and Wildlife Habitat and began work on a regional ESEE analysis. The Basin Approach is being completed concurrently with Metro's regional tasks, the Tualatin Basin is most likely to be implemented sooner than other portions of the region if the non-basin jurisdictions wait for the Metro regional safe harbor to be completed and acknowledged by the state before they begin local implementation tasks.

Clean Water Services (CWS)

Water quality problems have long been recognized in the Tualatin Basin. To address these issues, the Unified Sewerage Agency (USA, now Clean Water Services (CWS)) was formed as a special district under Oregon Revised Statutes (ORS) 451 by a vote of the people in 1969 in order to combine the 26 wastewater treatment plants operating within the Tualatin Watershed at that time. This action was motivated by the Environmental Quality Commission (EQC) establishing a building moratorium in the watershed until the poor water quality was corrected. The ORS requires that its Board of Directors be the County Commission. This is the only connection to County government.

Over the years, the Unified Sewerage Agency built two new "regional" sewerage treatment plants (Durham and Rock Creek), upgraded two more to today's operating standards for the watershed (Hillsboro, formerly West Hillsboro, and Forest Grove), and took the rest out of treating wastewater and replaced them with pump stations and hooked them into "interceptor lines" which moved the waste to the regional plants for treatment.

The Department of Environmental Quality (DEQ), in compliance with section 303 of the Clean Water Act, is required to establish Total Maximum Daily Loads (TMDLs) in 12 watersheds, the first being the Tualatin River. When the TMDLs were established in 1988, twelve cities within Washington County asked CWS to form a stormwater utility. To do so, CWS had to ask the Legislature to amend ORS 451 to allow stormwater management along with the existing wastewater collection. Following that amendment, the cities established interagency agreements with CWS to allow the agency to do wastewater collection and stormwater management in and for the respective cities.

Title 3 Basin Approach

The local governments in the Tualatin Basin developed a unified program, implemented through CWS's Design and Construction Standards, to successfully comply with Metro's Title 3 water quality and flood management requirements. CWS Design and Construction Standards protect the Tualatin and its 700 miles of tributaries, providing for vegetated corridors up to 200 feet wide and mandating restoration of corridors in marginal or degraded condition. Title 3 also addressed protection of flood management areas in order to protect life and property from dangers associated with flooding; provide for flood storage, reduction of flood velocities, reduction of flood peak flows and reduction of wind and wave impacts. The multi-jurisdictional approach resulted in a method for implementation of Title 3 based on water quality standards, good science, and best management practices that meet Metro's substantial compliance requirements.

CWS Healthy Streams Plan and Watersheds 2000

CWS is currently developing its Healthy Streams Plan. The Healthy Streams Plan is a coordinated response to the Clean Water Act (CWA) and Endangered Species Act (ESA) within the urban portions of the Tualatin Basin. Clean Water Services (CWS), local cities, Washington County, Metro, and Tualatin Hills Park and Recreation District, are all partners in the Healthy Streams Plan development and implementation. The Healthy Streams Plan has additional participants including the Soil and Water Conservation District, the Federal Emergency Management Agency (FEMA), and the Tualatin River Watershed Council. The Healthy Streams Plan contains the following key elements: an inventory of the stream location and condition (Watersheds 2000), an analysis of public habits and values, an economic analysis, policy and programmatic focus areas (effective impervious area reduction, vegetated corridors, hydrology / hydraulics, and operations and maintenance).

Watersheds 2000 is the ecological stream inventory and water resource modeling component of the Healthy Streams Plan. The study area for Watersheds 2000 included the urban and urban fringe areas draining into waters primarily managed by Clean Water Services. Consultants were used to gather field information and generate the hydrology and hydraulic models. Project Committee's of citizens, regulators, cities, and other stakeholders were formed for three separate regions of the study area to assist with identifying desired conditions for specific stream reach types based on the scientific data delivered and social values of the participants.

The Water Resource Engineering element of the Watersheds 2000 Inventory developed detailed topographic surveys of the floodplain and stream cross sections. Hydrology models using HEC-HMS and Hydraulic models using HEC-RAS were developed. The engineers and ecologists also evaluated culverts and bridges for conveyance and fish passage.

The ecological inventory element of Watersheds 2000 was conducted from July to early November 2000. Follow up gap analysis, replicate sampling, and detailed macroinvertebrate sampling also occurred from September through early November 2001. Ecologists sampled streams using the Tualatin Basin Rapid Stream Assessment Technique (RSAT). Numerous sites were sampled and applied to a proportionate stream reach in miles to determine the physical condition and habitat character of our stream system. Streams and other water quality sensitive features in the study area that were not sampled were still field verified for location and condition (piped, open, etc.). In

addition, Clean Water Services and the Watershed Council worked with Oregon Department of Fish and Wildlife to collect fish and crawfish at 67 sites between 1999 and 2001.

Existing Environmental Health Report (June 2004)

The Existing Environmental Health Report (EEHR) was prepared by the Tualatin Basin Partners for Natural Places to provide an assessment of the environmental health of the eleven Regional Sites found within the urban portion of the Tualatin River Basin, which are the subject of Metro's Goal 5 natural resource planning process. The EEHR serves as a basis to measure proposed strategies for improving the health of Tualatin Basin Watersheds in future programs, as well as a reference for determining whether program strategies achieve the goal of promoting improved overall health.

The EEHR is based on a comparative model of existing data sources: Metro's Regionally Significant Inventories for Riparian Corridors and Wildlife Habitat, Clean Water Services Rapid Stream Assessment Technique (RSAT) data, and Clean Water Services Effective Impervious Area (EIA) data. Each set of information represents a different method for assessing the environmental health. The EEHR uses the Metro inventory to provide the boundaries of the natural resource Regional Sites and associated scoring attributes. The Metro Regional Sites are then analyzed on a local level utilizing available Clean Water Services data.

The EEHR is principally organized around the following key environmental criteria:

1. Effective Impervious Area (EIA)
2. Stream Flow
3. Geomorphology
4. Riparian Vegetation
5. Water Quality
6. Aquatic Habitat
7. Upland Wildlife Habitat

The comparative assessment of the CWS and Metro inventory data provided a sound approach to evaluating the existing environmental health of the urban portion of the Tualatin Basin and eleven major sub basins. In addition, this methodology provides the basis that will allow for measurement of improvement in environmental health over time. This process provides both a static snapshot of current health as well as a tool for dynamic measurement of future health over time. The table below provides a summary of the assessments for each of the eleven Regional Sites and an overall summary of the environmental health for the entire Basin Study Area. While there is considerable variability, when considered as a whole, the riparian and wildlife habitat conditions within the urban portion of the Tualatin River Basin merit an overall environmental health rating of "Fair".

Table 1-1
Summary of Basin Study Areas from the EEHR

Study Area Sub basins	Metro Regional Site	Overall Rating
Council Creek, Gales Creek, and Upper Dairy Creek	Site 5	Fair to Good

Table 1-1
Summary of Basin Study Areas from the EEHR

Study Area Sub basins	Metro Regional Site	Overall Rating
Dairy Creek, McKay Creek, and Waibel Creek	Site 6	Fair
Middle and Upper Rock Creek, Abbey Creek, Holcomb Creek	Site 7	Poor to Good
Lower and Upper Beaverton Creek, Bronson Creek, Cedar Mill Creek, and Basin	Site 8	Poor to Fair
Rock Creek, Reedville Creek, Dawson Creek, and Turner Creek	Site 9	Fair
Butternut Creek, Gordon Creek, and Tualatin River Tributary	Site 10	Fair
Hedges, Nyberg, and Saum Creeks	Site 11	Fair
Ash Creek, Upper Fanno Creek, Sylvan Creek, Vermont Creek, and Woods Creek	Site 12	Poor to Fair
Summer Creek	Site 13	Poor to Fair
Ball Creek, Lower Fanno Creek and Red Rock Creek	Site 14	Fair
Chicken Creek, Cedar Creek, and South Rock Creek	Site 15	Fair
Entire Basin Study Area		**Fair**

D. Overview of ESEE Conditions within the Tualatin Basin

This section provides a snapshot picture of the "state of the basin" from the four ESEE perspectives: economic, social, environmental and energy.

Overview of the Economic Conditions within the Basin

Over the course of the last 20 years much of the Basin has evolved from a mostly agricultural area to a high-tech manufacturing center. During this period of growth, the economy of the urban area of the Basin has developed into part of the "Silicon Forest," Oregon's answer to Silicon Valley. A number of high-tech manufacturing firms have established headquarters or significant operations in Washington County. In fact, of the 53,300 high-tech jobs in Oregon, over 52% are located in Washington County. For years the technology boom drew people to Washington County and spurred significant economic growth in the area. According to the U.S. Department of Commerce, between 1995 and 1999 per capita personal income in Washington County increased from $26,474 to $31,537, an increase of nearly 20%.

The economic downturn of 2001 hit Oregon especially hard. Although San Jose and the Bay Area in California were at the epicenter of the "Tech Wreck," Oregon felt the aftershocks. Washington County was no exception with sizeable losses in the manufacturing sector. Importantly, almost one-third of income earned in Washington County during 2001 was from manufacturing, due almost entirely to the high-tech industries according to the Oregon Employment Department. The ongoing weakness in the Japanese economy, as well as the increased strength of the dollar vis-à-vis the yen, has contributed to Japanese disinvestment in US production operations.

Signs for short-term economic recovery in Washington County are mixed. Some companies see the current downswing as an economic opportunity to expand and position themselves for future growth, while others have been unable to survive the downturn. Although it may be a long process, it is likely going to be the high-tech sector that will lead the Basin out of the current economic slump. An area of concern for future economic expansion is the inventory of suitable industrial locations. The recently completed Regional Industrial Lands Study has identified a critical need for quality industrial sites in the area to support anticipated growth.

The economic values identified for the ESEE include the following types of factors:

- Potential removal of developable land;
- Potential scarcity of land which impacts cost;
- Potential impact on value because of aesthetic amenities;
- Potential for impacts to the tax base;
- Potential for impacts to the supply of residential land
- Potential for the interaction of residential land supply and future job-producing development; and
- Potential for cost increases related to environmental impact costs such as restoration and flood damage.

Overview of Social Conditions within the Basin

According to the Greater Hillsboro Area Chamber of Commerce, early pioneers first reached the Tualatin Valley in the 1840s. Most early residents in the area lived on farms or were engaged in milling and timber work, with local jurisdictions acting as market towns for the farming community of the Tualatin Valley. During World War II the urban residential areas grew. After the war, business leaders in the area began to pursue additional industrial development. By the 1970s, high-tech industrial businesses had begun to become established.[1] As the high tech industry continues to supply relatively high paying jobs, and residents with higher incomes move into urban Washington County, there may be displacement of residents in the lower income brackets. The relatively rapid change within the cities of Washington County from independent, small farming communities to members of a complex and diverse urban area has raised concerns about a loss of the agricultural and historical heritage and sense of place. The following social factors have been identified for consideration during the ESEE analysis:

- Potential impacts to historic and cultural values,
- Potential loss of scenic benefits,

[1] Greater Hillsboro Area Chamber of Commerce website, http://www.hilchamber.org/index.htm, 3/12/02.

- Potential loss of passive recreational and educational opportunities,
- Potential change to neighborhood character,
- Potential impacts on compact urban design and pedestrian and vehicular connectivity,
- Potential impacts on the development of future community gathering places (e.g., neighborhood businesses, places of worship, schools, and civic buildings),
- Potential impacts on future employment opportunities, and
- Potential impacts on future housing options.

Overview of Environmental Conditions within the Basin

The Tualatin River Basin drains 712 square miles of the western portion of the Portland metropolitan area. It is a low elevation basin whose boundary is defined by the Portland Hills, Tualatin Mountains, Chehalem Mountains, and the Coast Range.

While the base geology of the basin is ancient volcanic rock, much of the basin is now dominated by a thick layer of fine sediment deposited by the Bretz ("Missoula") floods during the last ice age. These numerous and catastrophic Late Pleistocene floods filled the basin and deposited silts to elevations of approximately 250 feet. This elevation approximately represents the outer edge of the current valley floor. The mainstem of the Tualatin River meanders through the broad, flat valley floor before joining the Willamette River above Willamette Falls at 55 feet above sea level.

Land-use within the basin is mixed, and includes residential, commercial, industrial, forested, and agricultural areas. Approximately 480,000 people live in the basin. It is one of the most densely populated and urbanized watersheds in Oregon and consequently has a long history of water quality compliance issues.

A major determinant of stream habitat characteristics in the Tualatin Basin is elevation, due to the soft sediments that dominate the valley bottom below 250 feet. The biological community's adaptation to this geological constraint has been described by several studies of fish and macroinvertebrate distribution patterns. On the valley floor, streams, including the mainstem of the Tualatin River, tend to be unconfined, low gradient, soft-bottomed meandering channels with few of the habitat elements (i.e. cold, well oxygenated water and clean gravels) needed for salmonid spawning. Above 250 feet, streams are more likely to be characterized by steeper gradients and harder substrates. These contrasts in landscape form and soil type have also influenced the patterns of human use of the land, encouraging agriculture, housing, and industry on the valley floor and forestry in the foothills.

Historic patterns of salmonid distribution were determined in part by the geological limits on habitat and also by limits on access at Willamette Falls at Oregon City. For example, Coho salmon were not historically able to access areas upstream of the falls and are therefore not considered to be part of the Evolutionarily Significant Units listed under the Endangered Species Act. In addition, for a variety of reasons not well understood by scientists, the majority of anadromous fish production in the Willamette River Basin came from tributaries that drain the Cascades rather than Coast Range tributaries such as the Tualatin River. Although there is evidence that much of the basin's anadromous salmonid production is of hatchery origin (remnants of decades of Oregon Department of Fish and Wildlife efforts to create non-indigenous fish runs in the Tualatin River), fish presence maps do not usually specify whether or not fish stocks are native.

Overview of Energy Conditions within the Basin

Energy impacts are hard to quantify and sometimes speculative or elusive. Obvious energy impacts include the energy required to develop new uses. Heavy equipment that is used to develop land, and the new uses that are the result, will consume energy. If new buildings are constructed with photovoltaic arrays installed on the roof, increase in electricity demand can be blunted substantially. Costs of these systems can be built into cost of the mortgage; reductions in energy costs can potentially cancel out the marginal cost of the mortgage, all but eliminating any negative economic impact. This same principal applies to purchase/installation of energy-efficient equipment and products.

In some cases, forested areas create microclimates that regulate temperatures within and beneath the canopy. For existing residents of an area, this may provide for shelter from cold winds. It may also shade some of the direct sunshine during the warm days of summer, reducing solar gain inside buildings and improving the heat exchange energy efficiency of air conditioning condensers. This may result in direct savings of energy for these users. An increase in dark asphalt in roads, sidewalks and parking lots acts as a local "heat sink", which can modify the microclimate and increase demand on air conditioning equipment during hot weather.

If the energy consequences are examined at a large enough scale, one could argue that if threatened and endangered species in the study area are not recovered adequately that it may contribute to a decision to remove dams along the Columbia River. If this were to happen, the energy that is now generated from the dams would be lost. Therefore, to the extent new development is more efficient and has the capacity to generate much of its own electrical energy with alternative means, the possibility of loss of power from the grid would be less of a factor in assessing energy risks of new construction.

In response to requirements of Oregon State law, including the Transportation Planning Rule, OAR 660-012, the cities and county have adopted, or are adopting, Transportation System Plans (TSP). TSP's are intended to provide for a complete and balanced transportation system, which includes projects for pedestrian, bicycle, transit as well for automobiles and other vehicles. TSP's typically include a map and list of proposed transportation projects that are needed to maintain or improve the transportation system at minimum standards over the next 20 years. TSP maps of potential improvement projects may show conflicts with natural areas. The relationship of roads to energy is that the vehicles that travel along the road may use more energy if a road is required to circumvent a resource area. The same logic applies the installation of other infrastructure improvement including sewer and water lines. If longer pipes are installed to circumvent a resource area, more energy will be required to install and operate the improvements. Any impediment to smooth traffic flow such as stop signs at new intersections will decrease vehicle fuel efficiency. If increased density encourages the extension of transit services, it could be hoped that greater ridership would reduce the volume of single-car occupant trips in the area, potentially reducing net fuel consumption.

Some natural resource sites provide natural functions that ameliorate the impacts of human developments. If these functions are reduced or lost, additional energy might be expended to build new, or enlarge existing, public and/or private facilities required to protect regulated resource parameters, such as stream water quality. In some cases, such as the City of Portland combined sewer overflow interception program, large expenditures of energy for construction and on-going operation (i.e. pump stations, sewage treatment facilities) will result in higher energy consumption.

Although difficult to quantify, reduction of "natural" vegetation (wetlands, forests, shrub communities) has a small incremental effect on global balances of greenhouse gases. Climactic changes resulting from these materials in the atmosphere will affect energy use and supplies. Site specific energy consequences of allowing, limiting, or prohibiting conflicting uses will be discussed within each resource unit later in this chapter. The energy impacts limiting, allowing, or prohibiting any portion of these conceptual plans are evaluated later in this report.

CHAPTER 2: CONFLICTING USES

A. Introduction

The ESEE analysis process will provide the necessary findings and basis for the adoption of a program to implement Goal 5. ESEE analysis steps include identifying conflicting uses, defining impact areas, and analyzing the ESEE consequences of allowing, limiting or prohibiting the conflicting uses within the significant resource or its impact area.

Integral to completing the ESEE analysis is the identification of conflicting uses that "exist or could occur" within significant resource sites and identified impact areas. Governments are directed to examine land uses allowed outright or conditionally within the zones applied to the resource site and in its impact area. If a local government finds that no uses conflict with a significant resource site, acknowledged policies and land use regulations may be considered sufficient to protect the resource site. The determination that there are "no conflicting uses" must be based on the applicable zoning rather than ownership of the site. [OAR 660-023-0040(2)]

A conflicting use is a "land use or other activity reasonably and customarily subject to land use regulations that could adversely affect a significant Goal 5 resource." [OAR 660-023-0010(1)] According to the Goal 5 rule, the ESEE analysis "may address each of the identified conflicting uses, or it may address a group of similar conflicting uses." [OAR 660-023-0040(4)]. Analysis of conflicting uses at this basin-wide scale requires generalizations and grouping of conflicting uses into categories that are easily defined, similar in impact and meet the requirements of Goal 5.

This chapter explores the conflicting uses that exist or could occur within a significant resource site or its impact area. For the purposes of this study, conflicting uses are grouped into categories.

ESEE Conflicting Use Categories

In this ESEE analysis, conflicting uses are identified by examining four Conflicting Use Categories. These categories are specifically for the Tualatin Basin. The four categories represent a group of conflicting uses with similar impacts to the significant resource and its impact area.

The four categories are:

- High Intensity Urban (HIU);
- Other Urban (OU);
- Future Urban (FU); and
- Non-Urban (NU).

Metro's Data Resource Center developed "regional zones" and "generalized regional zones" as a GIS data layer to perform region-wide analysis. There are 26 total generalized regional zones. These are categories in which the hundreds of city and county zones (land-use districts) can be grouped. For the Basin, 204 local zoning categories are aggregated into these generalized regional zones. Although jurisdictions' zoning categories are similar, the actual permitted uses and density requirements often vary. To ensure coordination between the Tualatin Basin effort and the Metro effort, the Partners for Natural Places aggregated these 26 general regional zones into the four Conflicting Use Categories.

Table 2-1 Conflicting Use Categories on the next page describes each of the four Conflicting Use Categories and corresponding Metro generalized regional and regional zones.

Table 2-1
Conflicting Use Categories

1

Category	Characterization	Metro Generalized Regional Zones and Regional Zones
High Intensity Urban (HIU) • Commercial • Industrial • Mixed Use • Regional Centers, Town Centers, Station Areas, Main Streets, Employment Areas, Corridors • Other (Institutional Facilities, Public Facilities, Parks) • Non-annexed lands within the UGB zoned Future Development, 10-acres (FD-10) proposed for HIU	High potential for impacts to regionally significant riparian corridor and upland wildlife habitat resources due to the intensity of activity and the existing or expected amount of impervious surface area due to increased lot coverage and minimum Floor Area Ratios (FAR). Also, there is a high expectation for development or redevelopment in these areas.	***Commercial (COM)*** *CN Neighborhood Commercial:* Small scale commercial districts permitting retail and service activities such as grocery stores and laundromats supporting the local residential community. Floor space and/or lot size is usually limited from 5,000 to 10,000 square feet. *CG General Commercial:* Larger scale commercial districts, often with a more regional orientation for providing services. Businesses offering a wide variety of goods and services are permitted and include highway and strip commercial zones. *CC Central Commercial:* Allows a full range of commercial activities typically associated with central business districts. More restrictive than general commercial in the case of large lot and highway oriented uses, but usually allows multi-story development. *CO Office Commercial:* Districts accommodating a range of business, professional and medical office facilities, typically as a buffer between residential areas and more intensive uses. *PF Public Facilities:* Generally provides for community services such as schools, churches, government offices, hospitals, libraries, correctional facilities, public parks, public recreation facilities and public utilities. ***Industrial (IND)*** *IL Light Industrial:* Districts permitting warehousing and light processing and fabrication activities. May allow some commercial activities.

Category	Characterization	Metro Generalized Regional Zones and Regional Zones
High Intensity Urban (HIU)		*IH Heavy Industrial:* Districts permitting light industrial and more intensive industrial activities such as bottling, limited chemical processing, heavy manufacturing and similar uses. *IMU Mixed Use Industrial:* Districts accommodating a mix of light manufacturing, office and retail uses. IA Industrial Area: Districts designated exclusively for manufacturing, industrial, warehouse and distribution related operations. ***Mixed Use Centers (MUC)*** *MUC1 Mixed Use Center 1:* Combines residential and employment uses in town centers, main streets and corridors. *MUC2 Mixed Use Center 2:* Combines residential and employment uses in light rail station areas and regional centers. *MUC3 Mixed Use Center 3:* Combines residential and employment uses in central city locations. Mixed use is weighted toward residential development. ***Parks and Open Space (POS)*** *POS Parks and Open Space:* Preservation of public and private open and natural areas.

1

Category	Characterization	Metro Generalized Regional Zones and Regional Zones
Other Urban(OU) • Residential (SFR, MFR) • Other (Institutional Facilities, Public Facilities, Parks) • Non-annexed lands within the UGB zoned Future Development,	Medium potential for impacts to regionally significant riparian corridor and upland wildlife habitat resources and medium to low expectation for	***Single Family Residential (SFR)*** *SFR1 Single Family 1:* Detached housing with minimum lot sizes from 20,000 square feet and over. *SFR2 Single Family 2:* Detached housing with minimum lot sizes

Category	Characterization	Metro Generalized Regional Zones and Regional Zones
Other Urban(OU) 10-acres (FD-10) proposed for OU	development or redevelopment.	ranging from 12,000 to 20,000 square feet. *SFR3 Single Family 3:* Detached housing with minimum lot sizes ranging from 8,500 to 12,000 square feet. *SFR4 Single Family 4:* Detached housing with minimum lot sizes from 6,500 to 8,500 square feet. *SFR5 Single Family 5:* detached housing with minimum lot sizes ranging from 5,500 to 6,500 square feet. *SFR6 Single Family 6:* detached housing with minimum lot sizes from 4,000 to 5,500 square feet. SFR7 Single Family 7: detached housing with minimum lot sizes up to 4,000 square feet. ***Multi-family Residential (MFR)*** *MFR1 Multi-family 1:* housing and or duplex, townhouse and attached single-family structures allowed outright. Maximum net allowable densities range from 2 to 25 units per acre, with height limits usually set at 2 1/2 to 3 stories. *MFR2 Multi-family 2:* housing accommodating densities ranging from 25 to 50 units per acre. Buildings may exceed three stories in height. ***Parks and Open Space (POS)*** *POS Parks and Open Space:* Preservation of public and private open and natural areas. *PF Public Facilities:* Generally provides for community services such as schools, churches, government offices, hospitals, libraries, correctional facilities, public parks, public recreation facilities and public utilities.

1

Category	Characterization	Metro Generalized Regional Zones and Regional Zones
Future Urban(FU) • Urban Growth Boundary (UGB) Expansion Areas	Varying potential for impacts to regionally significant riparian corridor and upland wildlife habitat resources depending on the 2040 design types assigned through the UGB expansion process. There is a high expectation for development in these areas and a corresponding potential for future protection.	N/A

2

Category	Characterization	Metro Generalized Regional Zones and Regional Zones
Non-Urban(NU) • Farm/Forest (FF) • Rural (RUR, RR)	Low potential for impacts to regionally significant riparian corridor and upland wildlife habitat resources from increases in impervious surface area, but more potential for impact from loss of habitat due to agricultural practices. Low expectation for change in these areas. Impacts for existing commercial and industrial areas and rural residential development (RR-5, AF-5 and AF-10 zoning) such as that found in the Cooper Mountain area south of SW	***Rural (RUR)*** *FF Agriculture or Forestry:* Activities suited to commercial scale agricultural production, typically with lot sizes of 30 acres or more. *RRFU Rural Residential or Future Urban:* Residential uses permitted on rural lands or areas designated for future urban development with minimum lot sizes of one acre or more. Within Washington County, the zones that are associated with this Metro regional zone are RR-5, AF-5 and AF-10. ***No Metro Generalized Zoning Category*** Lands in exception areas that include rural areas with commercial or industrial development.

Category	Characterization	Metro Generalized Regional Zones and Regional Zones
Non-Urban(NU)	Gassner Road and the area near SW Unger Road are expected to be similar to impacts for the same type of development in HIU and OU areas, although the intensity may be slightly less intense. The exception lands where most of these areas described above tend to be located adjacent to the UGB.	

General Descriptions of Conflicting Use Categories

Below is a general description of each of the Conflicting Use Categories listed in Table 2-1 above that occurs within a Tualatin Basin Resource Site or impact area.

High Intensity Urban (HIU)

High Intensity Urban areas provide an area to focus economic and population growth in greater intensities and densities than other areas. These areas typically represent higher intensity design types on Metro's 2040 Growth Concept Map, including Regional Center, Station Community, Town Center, Main Street, Corridor, Employment Area, Industrial Area, and Regionally Significant Industrial Area. Local zoning in HIU areas includes Commercial, Industrial and Mixed Use. A common characteristic of the uses within the HIU area is the capacity to vary greatly in scale and form of development.

- *Commercial Uses:* Commercial uses can include restaurants (sometimes referred to a eating and drinking establishments); retail businesses; personal, professional, medical, dental, educational and business services; financial institutions; automotive, boat and other motor vehicle sales, service or rental; activity required to be wholly within an enclosed structure or open air sales/display/storage; and wireless communication facilities or satellite antennas. In some jurisdictions, schools, churches, social or fraternal organizations, parks and playgrounds and residential care facilities may be allowed outright or conditionally permitted.

- *Industrial Uses:* Industrial uses can include manufacturing, assembly, processing, fabricating, packing, storage and cold storage, batch plants, wholesale, and distribution activities. Wireless communications equipment and satellite antennas may be permitted in some jurisdictions. Airports, heliports, motor freight terminals, building materials storage yard, salvage yards and recycling centers, solid waste transfer stations, and mini-storage facilities may be allowed outright or conditionally permitted in some jurisdictions.

  Some industrial areas can contain general administrative offices that typically exclude services offered on the premises to individuals or the general public. Services to businesses in the industrial area are sometimes permitted such as advertising, personnel services, building maintenance services, data processing and accounting. Printing, publishing and bookbinding, technical, professional, vocational, job training and vocational rehabilitation services are typically allowed. Childcare is sometimes allowed in a limited manner. Business associations, engineering, architectural and surveying services, mail order services, and public utilities and services may be allowed. Privately owned parks and recreational facilities or clubs may be allowed to serve the area such as racquetball or handball clubs, health clubs or indoor soccer facilities. Educational, scientific and research organizations including laboratories, research and development activities, industrial and professional equipment and supply stores, service and repair are often permitted. Sometimes limited commercial activity or hotels and extended stay hotels are allowed. Bulk retail uses are typically limited in number and size.

- *Mixed Use:* Mixed Uses can include office, retail and service uses similar to those cited above with or without a residential component. However, a minimum Floor Area Ratio (FAR) is typically required. In some areas, retail uses may be limited in size unless they are part of a multiple use development. Mixed-use districts combining commercial and residential uses may

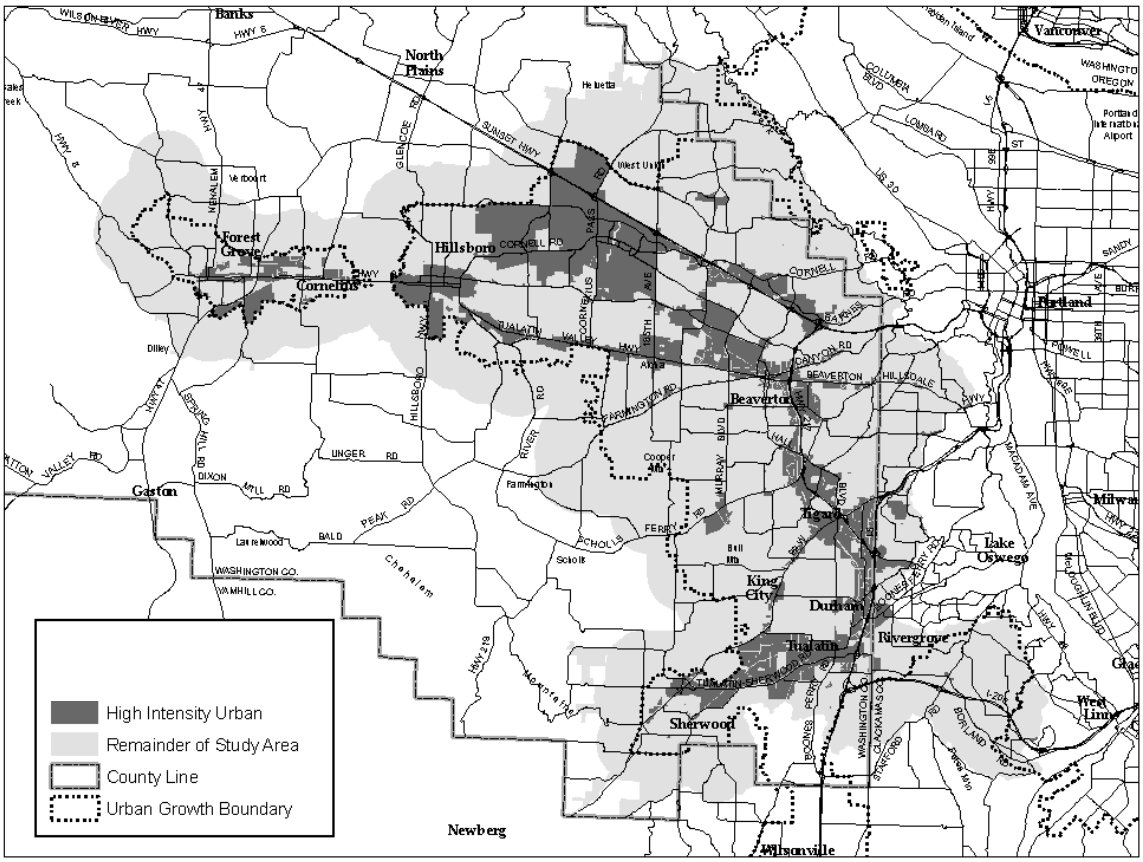
require that a ratio of commercial to residential uses be maintained. The ratio ensures that the minimum housing or employment goal can be maintained throughout the district. Some mixed-use districts may focus exclusively on employment and may allow some light industrial, office and specialty retail uses with the intent of reaching a target number of employees per acre. Sometimes light manufacturing such as research facilities may be allowed. However, in some jurisdictions industrial type uses may be prohibited.

Land area consumed by mixed-use development varies depending on the location of the development type, the zoning district, and the need or desire to retain natural features on the site such as trees, slope, wetlands or other unique features. Commercial and industrial zoning districts may require a percentage (at least 15 % in some jurisdictions) of the total lot area to be landscaped. Mixed-use developments typically have a FAR that can range from no minimum to unlimited maximum. Others might provide limitations ranging from 0.20 to 2.0. Number of residential units per acre may vary from 12 units per acre to 60 or more units per acre.

- *Institutional/Public Facility Uses:* Many jurisdictions that do not have specific institution and public facility zones allow institution and public facility uses conditionally in commercial, mixed-use and industrial zones. Typical institutional and public facility uses include schools, churches, public utilities, parks, community recreation, day care centers, medical services, postal services, golf courses, cemeteries and public support facilities.

- *Non-annexed lands within the UGB zoned FD-10 proposed for HIU:* In some parts of Washington County, there are lands within the UGB, and not yet annexed to a city that are zoned Future Development, 10 acres (FD-10). This zone serves as a holding zone for land within the UGB until it can be annexed by a jurisdiction. In the FD-10 zone, any parcel under 10 acres in size cannot be subdivided. Much of the land zoned FD-10 is currently used for agricultural or rural residential purposes, but may contain some commercial uses. Metro assigned a 2040 Design Type to these FD-10 lands. Most of these lands have a corresponding comprehensive plan and zoning designation and will ultimately fall in the HIU or OU conflicting use category.

Figure 2-1 High Intensity Urban (HIU) Lands



Other Urban (OU)

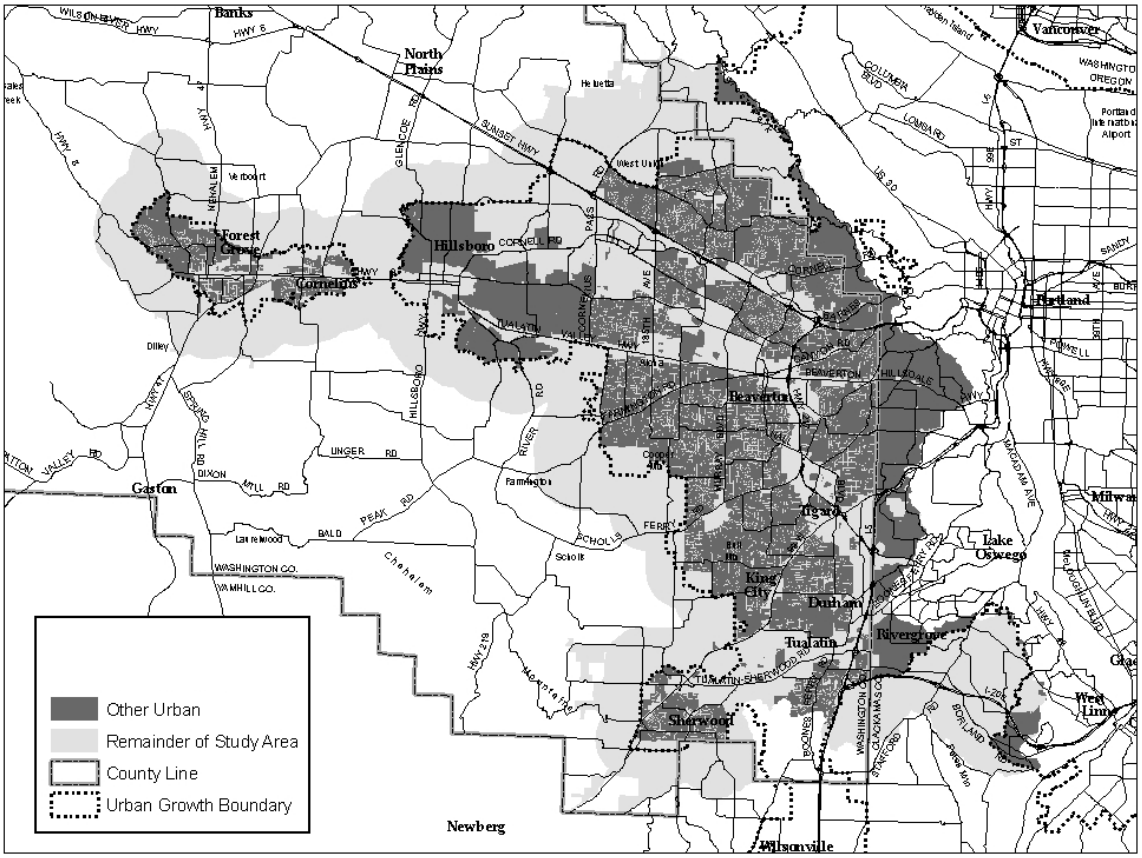
Zones included in the Other Urban (OU) category include single and multi-family residential, institutional and public facility zones.

- *Residential Uses:* Residential zones allow a mix of residential development ranging from low density, single family detached housing to high-density multi-family apartment buildings.

- *Institutional/Public Facility Uses:* Many jurisdictions that do not have specific institution and public facility zones allow institution and public facility uses conditionally in residential zones. Typical institutional and public facility uses include schools, churches, public utilities, parks, community recreation, day care centers, medical services, postal services, golf courses, cemeteries and public support facilities.

- *Non-annexed lands within the UGB zoned FD-10 proposed for OU:* As mentioned above in the HIU section, in some parts of Washington County, there are lands within the UGB and not yet annexed to a city zoned FD-10. Metro assigned a 2040 Design Type to these FD-10 lands. Most of these lands have a corresponding comprehensive plan and zoning designation and will ultimately fall in the HIU or OU conflicting use category.

Figure 2-2 Other Urban (OU) Lands



Future Urban (FU)

Future urban lands include those areas that have recently been added to the UGB and do not yet have urban zoning. These areas shall be held at a rural level of development until concept planning under Title 11 of the Metro Urban Growth Management Functional Plan has been completed, and appropriate comprehensive plan amendments and urban zoning designations have been adopted by the affected jurisdictions to which these areas will be annexed. FU lands do not include lands currently zoned FD-10 that have been in the UGB for many years. FD-10 land may be included in either the HIU or OU category.

Below is a description of FU lands including identification of their anticipated conflicting use category:

Table 2-2
2002 UGB Expansion Areas by Jurisdiction

Beaverton	• There are three Study Areas added to the UGB by Metro Ordinance No. 02-969B. The 2040 Design Type for Study Areas 64 and 69-2 is Inner Neighborhood, and residential development at a density of around 10 dwelling units per acre with R-5 zoning is anticipated. The 2040 Design Type for Study Area 67 is Outer Neighborhood. These

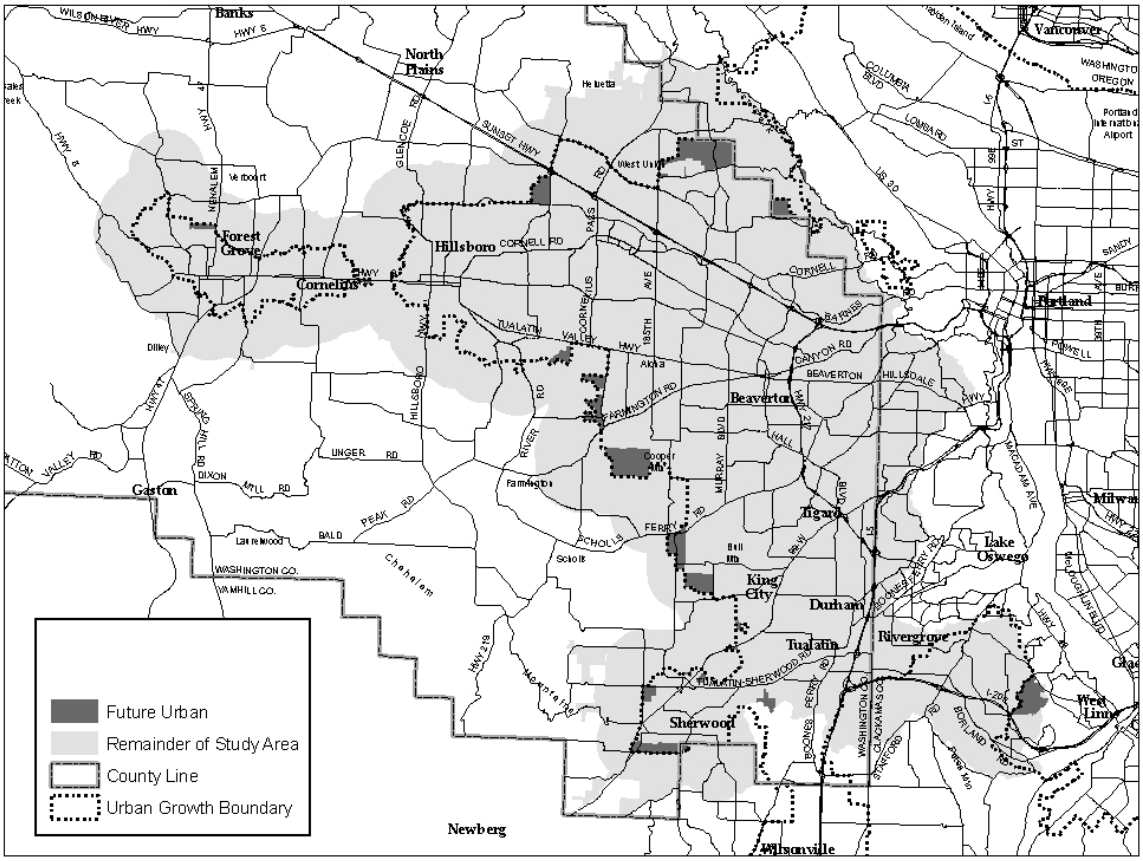
	areas will be classified as OU: Study Area 64 -- a 15-acre site. Study Area 67 -- a 509-acre site. Study Area 69-2 -- a 152-acre site. • Study Area 84/85/86/87: This area is also known at the Bethany addition (Metro Ordinance No. 02-987A). The 2040 Design Type for this 806-acre site is Inner Neighborhood, although a portion of the area along Kaiser Road will likely be designated as a Main Street or Neighborhood Center. It is anticipated that the area will be developed for low and medium density residential and possibly some light commercial use. This portion of the Bethany addition will be classified as HIU. Metro Ordinance No. 02-984A requires that the Beaverton School District site be used for a school or a park. In addition, special provisions such as setbacks and buffers must be adopted to ensure compatibility between urban uses and adjacent agricultural uses. The anticipated zoning is unknown. The School site will be classified as OU.
Cornelius	• A 16-acre portion of Study Area 77 located east of city limits and south of Baseline Road was added by Metro Ordinance No. 02-969B. The 2040 Design Type for this site is Corridor where it is anticipated to develop as a highway commercial and employment area with C-2 zoning. This area is currently being annexed to the City. This area will be classified as HIU.
Forest Grove	• Land Swap Area: The 2040 Design Type for this 60-acre site is Outer Neighborhood. It is anticipated that the entire area will be for residential use. This area will be classified as OU. In addition to adding land to the UGB, the land swap also removed land from the UGB. The land removal was designated in Forest Grove's Comprehensive Plan for industrial and residential use. Metro Ordinance No. 02-985A requires that before this area is incorporated into the City, all industrial land lost due to the land swap is replaced by re-designating residential land within the City's UGB.
Hillsboro	• Shute Road: The 2040 Design Type for this 203-acre site is Regionally Significant Industrial Area (RSIA). Metro Ordinance No. 02-983B requires that the parcels be configured into at least one 100-acre or larger site, or at least three 50-acre or larger sites. The area is restricted to development as high technology industrial land. The anticipated zoning is Industrial Park (MP) with a Shute Road Special Industrial District (SSID) overlay. This area will be classified as HIU. • Study Area 71: a 92-acre site was added by Metro Ordinance No. 02-969B. Approximately 9-acres of Study Area 71 have been incorporated into the Witch Hazel Village Community Plan. The

	remaining acreage of Study Area 71 may become part of the Witch Hazel Village Community Plan. The 2040 Design Type for the remaining area is Inner Neighborhood and residential development is anticipated. This area will be classified as OU.
Sherwood	There are three Study Areas added to the UGB by Metro Ordinance No. 02-969B: Study Area 61-1 – a 5-acre site Study Area 59 – an 89-acre site Study Area 55 – a 237-acre site • Study Area 61-1 is located near Cipole Road adjacent to existing industrial lands, where the 2040 Design Type is Industrial, and the site is anticipated to continue in its current use as a commercial nursery. The potential zoning is IMU. This area will be classified as HIU. • Study Area 59 is located southeast of the intersection of Elwert and Edy Roads, where the 2040 Design Type is Outer Neighborhood. The potential use of this site is anticipated to be a school, park and residential development, with perhaps a small "neighborhood commercial" area. Potential zoning for the site could be PF, POS and SFR4. This area will be classified as primarily as OU except for the area where the "neighborhood commercial" area is located which would be classified as HIU. • Study Area 55 is located south of Sherwood, near Brookman Road and is adjacent to residential lands, where the 2040 Design Type is Inner Neighborhood. Potential use of this area is anticipated to be open space or limited residential development. No potential zoning designations have been considered although Metro set a special limitation that the I-5 to 99W Connector Corridor must be determined prior to annexation. This area will be classified as OU. • Two Study Areas were added to the UGB by Metro Ordinance No. 02-986-A, consisting of a 9-acre site located north of Roy Rogers Road and west of 99W, and a 30-acre site located north of Tualatin Sherwood Road and east of 99W. Both sites are adjacent to properties currently zoned Light Industrial and Commercial. The 2040 Design Type for the 9-acre site is Employment and the 30-acre site is Industrial. Future zoning appropriate to consider for the 9-acre site is MUC1 and for the 30-acre site, the IMU zone designation appears likely. These areas will be classified as HIU.
Tigard	• There are two Study Areas added to the UGB by Metro Ordinance No. 02-969B. The 2040 Design Type is Study Area 63 is Outer Neighborhood and for Study Area 64 it is Inner Neighborhood. It is possible some neighborhood commercial use will be provided, and the

	anticipated zoning is unknown. These areas will be classified as OU as the amount of neighborhood commercial is unknown at this time: Study Area 63 -- a 218-acre site. Study Area 64 -- a 250-acre site.
Tualatin	• There are two Study Areas added to the UGB by Metro Ordinance No. 02-969B. The 2040 Design Type for Study Area 61-2 is Industrial and for Study Area 47/48/49 is RSIA. Both areas are restricted to development as industrial land, and the anticipated zoning is General Manufacturing (MG). These areas will be classified as HIU: Study Area 61-2 - a 15-acre site. Study Area 47/48/49 – a 62-acre site. • Study Area 48 - This 293-acre site added by Metro Ordinance No. 02-990A is designated as a RSIA and restricted to development as industrial land. The anticipated zoning is General Manufacturing (MG). The area will be classified as HIU. The area is also known at the Tigard Sand and Gravel site. Metro Ordinance No. 02-990A requires that the parcels be configured into one 100-acre or larger site and one 50-acre or larger site.
Other Study Areas Added to the UGB	• Study Area 69-1 -- a 96-acre site was added by Metro Ordinance No. 02-969B. The 2040 Design Type is Inner Neighborhood and residential development is anticipated. This area will be classified as OU.

1

Figure 2-3 Future Urban (FU) Lands



Non-Urban (NU)

All NU land in the study area falls under the jurisdiction of Washington County. NU lands can be grouped into two categories:

- Rural resource areas and
- Rural exception areas.

- *Rural Resource Areas:* Rural Resource Areas are lands reserved exclusively for farm or forest uses. In agricultural areas, exclusive farm use lands generally are distinguished from non-exclusive farmlands by the presence of high-value soils. These areas also may include an overlay designation for the extraction of mineral and aggregate resources (District A).

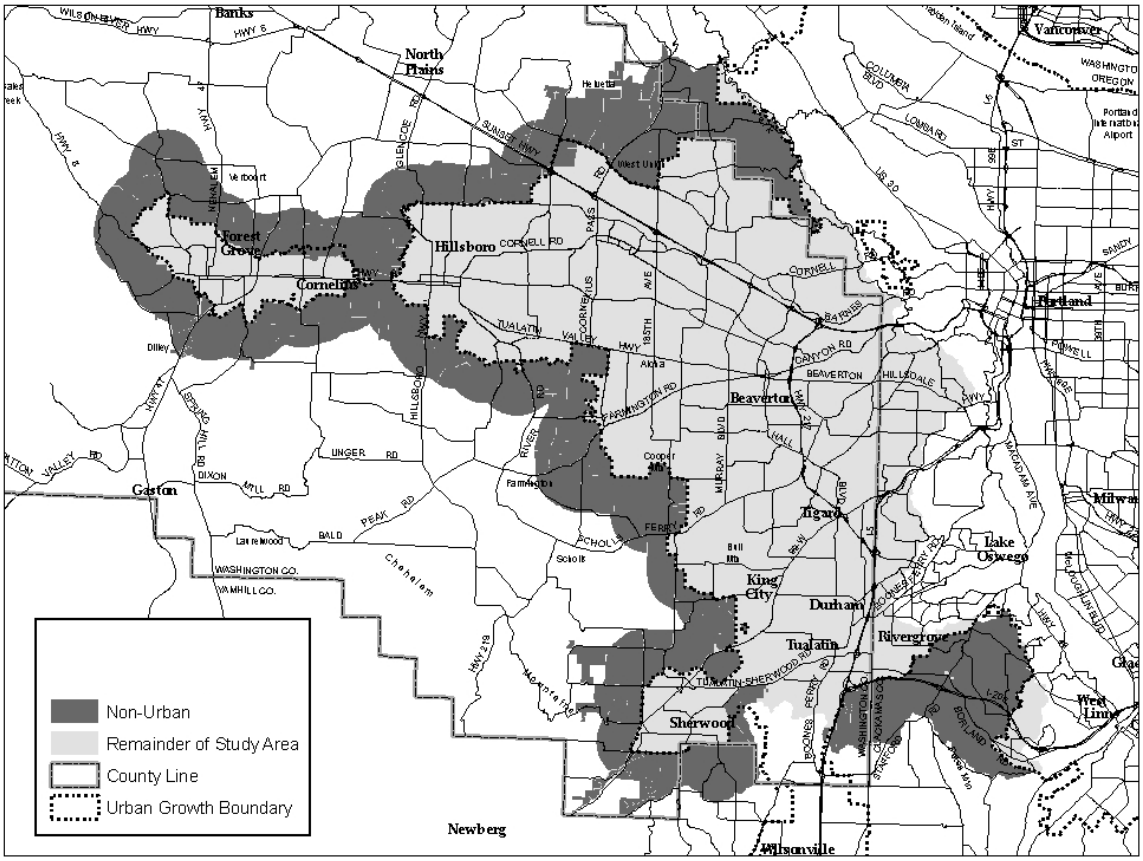
- *Rural Exception Areas:* Rural Exception Areas are defined as non-exclusive rural lands for which an exception to Statewide Planning Goals 3 and 4 have been taken. These areas are typified by non-high-value soils and/or areas physically developed or otherwise committed to limited farm or forest uses. Exception lands also include rural areas with commercial or industrial development. For the purposes of this analysis, land uses in exception areas can be expected to have impacts that are similar in intensity to lower density residential development and

commercial and industrial development categorized as OU or HIU. In addition, these areas may include an overlay designation for mineral and aggregate resources (District A).

Although Metro's regional zoning RRFU classification considers rural residential and future urban areas to be rural in nature, the two are addressed separately for the purposes of the Tualatin Basin ESEE analysis. Specifically, rural residential areas are addressed with other Non-Urban uses and future urban areas are addressed under the Tualatin Basin classification for Future Urban lands.

Metro does not have a classification for commercial and industrial development within Rural Exception Areas, so for the purposes of the Tualatin Basin ESEE analysis, rural commercial and industrial land use impacts will be considered to be the same as those land uses categorized as HIU.

Figure 2-4 Non-Urban (NU) Lands



B. Potential Conflicting Uses and Disturbance Activities by Category

Based on the Conflicting Use Categories and generalized regional zoning described above, there are a number of potential conflicting uses in the Tualatin Basin Study Area. This section provides a review of the impacts of potential conflicting uses on Tualatin Basin Significant Riparian Corridor and Wildlife Habitat Resource Sites and their impact areas.

Note: Conflicts that are considered as part of this Goal 5 analysis are conflicts that could occur in reasonable scenarios.

Common Disturbance Activities Associated with Development

The most common disturbance activities associated with development that have potential conflicts with regionally significant Goal 5 resources are:

- Site clearing and grading;
- Adding impervious surfaces;
- Removal and replacement of native vegetation with non-native vegetation (trees, shrubs, groundcover, etc.); and
- Modification of the resource, e.g. streams by channelizing, piping, widening, deepening, straightening and armoring stream banks to confine flows, increase capacity for flood control and stabilize stream banks.

Other common disturbance activities in addition to these are:

- Installing utility connections such as sewers and storm water pipes, septic tanks in rural areas, and building sewer pump stations and water towers;
- Building storm water control structures;
- Constructing roads, stream crossings (bridges) and installing culverts;
- Using fertilizers, pesticides and herbicides;
- Generating runoff from household and business activities;
- Using toxins in households and businesses;
- Building fences and other wildlife barriers; and
- Other (pets, lights, noise, litter, garbage, etc.)

Of the above disturbances, the most noticeable in terms of the adverse impacts that they have on natural resources are removal of vegetation and increases in impervious surfaces, both of which have multiple adverse impacts on riparian corridors and wildlife habitat areas.

Vegetation removal from riparian corridors and upland wildlife habitat areas to accommodate any kind of development results in altered stream hydrology. This can cause increased sedimentation, erosion and flooding and loss of habitat, and elimination of feeding, nesting, perching and roosting places for birds, nesting and refuge areas for mammals, reptiles, amphibians, fish and insects. In addition, removal of vegetation can result in habitat fragmentation which increases the isolation of one habitat area from another; formation of barriers to wildlife migration; and can limit the genetic exchange among populations.

Increases in the amount of impervious surface area reduces groundwater infiltration, increases storm water runoff and degrades water quality due to increased levels of pollutants released directly into a stream. It can also contribute to elevated water temperatures and decreased fish runs because water is warmed before being released into the stream.

High Intensity Urban (HIU) Uses

Commercial

Commercial uses are generally characterized by a higher level of disturbance than would be the case for residential development. The most common disturbance activities related to commercial development include site clearing and grading and more intensive site development. Large building footprints and parking areas are also characteristics of commercial development. Additional potential detrimental effects resulting from conflicts associated with commercial uses with riparian corridor and wildlife habitat resources include:

- Increased stream temperatures and decreased water quality due to higher runoff from large impervious areas flowing into wetlands, riparian areas and streams.
- Reduced infiltration and lower ground water levels from large impervious areas such as parking lots.
- More pollutants being present that could get into streams from increased traffic from commercial area customers and storage of chemicals and other hazardous materials (gas tanks, motor oil, lubricants and solvents) related to commercial uses or facilities such as commercial maintenance and repair facilities. If uncontained, these products may find their way into resource sites as storm water carries them away.
- Hazards to wildlife when moving from one habitat area to another due to increased traffic from commercial area customers.
- Application of fertilizers, pesticides and herbicides may be less than in residential areas unless the commercial development incorporates extensive landscaping.

Industrial

Industrial uses are generally considered to be the most intensive level of development, and as such are usually the most intrusive on the landscape due to large parking lots and loading areas and as potential sources of toxic runoff and effluent. Industrial uses typically have all of the same conflicts and potential detrimental effects as commercial uses depending on the intensity of the industrial activity but to a greater degree (e.g. light vs. heavy industrial). Additional potential detrimental effects resulting from these conflicts are:

- Industrial uses may produce loud noises and light and glare that may cause a greater level of disturbance to the breeding and predator instincts of animals and birds.
- Some manufacturing industrial uses draw substantial amounts of water from wells and public water sources which can draw down the water table because of extensive use of groundwater. Another impact from this drawn down can be a reduction in surface water flows in streams and possible elimination of a water source for wildlife.
- The industrial uses that require a substantial amount of water for use in manufacturing processes also may release warmed water back into streams and rivers causing an overall increase in water temperature and potential impacts to in-stream habitat for fish and other aquatic species.
- Potentially, industrial areas may contribute high quantities of heavy metals or other toxic materials that end up polluting streams and rivers. Industrial uses may also transport or store hazardous materials and wastes that could end up finding their way into resource sites if uncontained or leaking occurs.

- In-stream and off-channel mining of aggregate resources has direct and significant negative impacts on the aquatic ecosystem that occur because of altering stream characteristics (e.g., channel morphology and substrate, channel stability, etc.) in order to extract sand and gravel. Off-channel mining practices such as construction of berms and dikes to prevent flood flows from spilling into excavation areas can have the effect of preventing natural lateral migration of a stream.

Mixed Use Centers

In general, activities related to development of mixed use centers are similar to both residential and commercial development because they combine features of both in regional centers, town centers, main streets, light rail station areas and corridors. Mixed Use development typically provide for higher density development (e.g., more people on a site – consisting of residents and employees). Mixed Use development also can create increased impervious surfaces with minimal landscaping which varies depending on the location of the 2040 Design Type and zoning district. Pedestrian-oriented commercial activity which is typically a feature of mixed use centers requires the development of pedestrian pathways, alleys and parking, and loading and docking facilities, which may have the effect of creating increased areas of impervious surfaces. The design of mixed use centers ultimately determines the severity of impacts on riparian corridors and fish and wildlife habitat.

Other HIU Uses

Public and Institutional Facilities (e.g., schools, churches, hospitals, etc.) and Parks (including community recreation facilities and golf courses) are often allowed in HIU areas. Public and Institutional Facilities have conflicting uses that are similar to commercial uses in their intensity and potential detrimental effects on riparian corridor and wildlife habitat areas. The disturbance activities associated with parks and open spaces vary depending on the intensity of use. Development of more urban parks with community recreation facilities, tennis or sport courts and parking lots typically involves vegetation removal and creation of impervious surfaces whereby the potential detrimental effects are similar to commercial uses. Stadiums and schools may also create significant noise, light and glare. For other types of parks that have less impervious surface areas and retention of open space and natural areas, the conflicting uses are more similar to residential uses. For example, the increases in landscaping and lawn areas in parks and golf courses are generally associated with an increase in the application of fertilizers, pesticides, herbicides and fungicides to maintain the landscaping and control pests and plant diseases which may harm wildlife, especially fish.

Other Urban (OU) Uses

Residential (SFR, MFR)

Activities associated with residential development are generally characterized as being less intensive than for commercial or industrial development especially in single-family developments. Common disturbance activities associated with residential development include site clearing and grading, adding impervious surfaces including homes, garages, accessory buildings, roads, driveways and sidewalks, and parking areas, and installing utility connections (e.g. water, storm water and sewage pipes). The potential detrimental effects of these activities are the same as described previously. In addition, the following disturbance activities which occur in residential areas can potentially impact riparian corridors and fish and wildlife habitat areas:

- Removal of native vegetation and landscaping and gardening using non-native ornamentals such as ivy and purple loosestrife in residential areas is a common occurrence which has the effect of reducing natural resource values. Landscaping often includes invasive and other non-native species that compete with native vegetation and spread to resource sites.
- Runoff from household activities such as oil, tar, antifreeze and other contaminants (from washing cars and changing oil in driveways, for example), septic fields and pet wastes can contaminate ground and surface waters.
- Household lights, loud noises and other outdoor human activities can disturb the breeding and predator instincts of animals.
- Household litter, garbage and lawn trimmings and clippings in resource sites can degrade habitat values, attract nuisance animals, and household pets can kill or injure native wildlife as well as compete for limited space.
- Barriers to wildlife migration and movement such as fences and walls, roads and roadway traffic are more likely to be present in residential areas and may result in animal fatalities and limit the genetic exchange among populations.

Other OU Uses

Public and Institutional Facilities and Parks are also often allowed in OU areas. The conflicting uses and their associated impacts were previously described in the HIU section.

Future Urban (FU) Uses

Land use assignments for areas categorized as Future Urban are as yet unassigned. Required concept planning for these areas will result in the application of appropriate land use designations which ultimately would fall under HIU and OU conflicting use categories. Disturbance activities are therefore considered to be similar to those described under the above corresponding sections of this chapter.

Non-Urban Uses

Rural Residential Uses

Disturbance activities related to rural residential development are similar to single-family residential development, except that they are slightly less intense and there are typically less impervious surfaces due to the larger lot sizes. The larger lot sizes generally dilute the impact of development and produce less storm water runoff. Another adverse impact to natural resources that may result from rural residential development is potential contamination of surrounding soils and groundwater from septic systems that have failed. Wells also have the potential to draw down the groundwater supply which can cause a reduction in surface water flows in streams and possible elimination of a water source for wildlife.

Rural Commercial and Industrial Uses

Disturbance activities related to rural commercial and industrial uses would be the same as for commercial and industrial uses in HIU areas. See the HIU section for specific details.

Farm and Forest Uses

Agriculture or forest uses on lands outside the UGB are exempt from identification as conflicting uses in regard to removal of vegetation in the riparian area according to the Goal 5 rule (OAR 660-

023-0090(7); however the Goal 5 rule is silent regarding identification of other agricultural and forest disturbance activities that are conflicting uses in resource sites outside the riparian area including riparian upland areas and wildlife habitat areas. Below are the agriculture and forest disturbance activities that occur outside of the riparian area that have potentially detrimental affects on significant riparian corridor and wildlife habitat resource sites:

- Clearing vegetation and plowing fields exposes bare soils which can affect natural resources. However, practices are regulated through the Farm and Forest Practices Acts, administered by the Department of Agriculture and the Department of Forestry.
- Livestock grazing can cause soil erosion, soil compaction and simplification of native vegetation diversity.
- Farm and forestry practices do not present great barriers to the movement of wildlife in terms of fencing or watercourse blockage. Fencing off riparian areas actually can provide some benefits as it prevents livestock from eating or trampling native vegetation along streams.
- Farm and forestry practices rely on the application of herbicides, pesticides and fertilizers. The use of these materials directly affects the quality of the surface and ground water of an area as previously discussed.
- Invasive plant materials may be introduced to surrounding areas due to farm and forestry practices. Both types of practices tend to grow monocultures that may not be native and could be considered invasive. However, farm and forestry practices also tend to upkeep property and remove noxious materials prior to their spread.
- Farm and forestry practices and rural exception development may affect significant resources due to the presence of wells and septic systems. Wells may draw the water table lower, affecting how plants grow. Septic systems have a possibility of failure, thus contaminating surrounding soils and affecting the habitat of significant resources.

C. Conclusions

The potential conflicts described above are summarized in Table 2-5 below. The likelihood and expected severity of the impact is noted as "High", "Medium" or "Low".

Table 2-5
Conflicting Uses by Analysis Type

Use Category	Animals (Domestic and/or Farm)	Barriers to Wildlife	Erosion	Groundwater Draw -down	Hazardous Materials	Increased Impervious Surfaces	Invasive Plant Species	Light and Glare	Loss of Native Vegetation and Shading	Noise	Pesticides, herbicide and fertilizer
HIU	Low	Med to High	Med to High	Med to High	Low to High	Med to High	Low to Med	Med to High	Med to High	Low to High	Med to High
OU	High	Med to High	Low to High	Low to Med	Low to High	Med to High	Med to High	Low to Med	Med to High	Low to Med	Med to High
FU	Future Urban Uses would fall into the applicable HIU or OU category depending on the uses permitted in the newly annexed areas.										
NU	Med	Low to Med	Low to Med	Med to High	Med to High	Low to Med	Low to High	Low to Med	Low to High	Low to High	Med to High

CHAPTER 3: GENERAL ECONOMIC, SOCIAL, ENVIRONMENTAL AND ENERGY (ESEE) ANALYSIS

A. Introduction

The Goal 5 administrative rules require that local governments analyze the economic, social, environmental and energy consequences of allowing, limiting or prohibiting conflicting uses within significant Goal 5 resources and their impact areas. This analysis includes the weighing of the importance of the resource relative to the conflicting use and, conversely, the importance of the conflicting uses relative to the resource. This chapter provides a *general* ESEE analysis, which describes the ESEE consequences in broad terms applicable to the entire study area.

Conflicting Use Categories

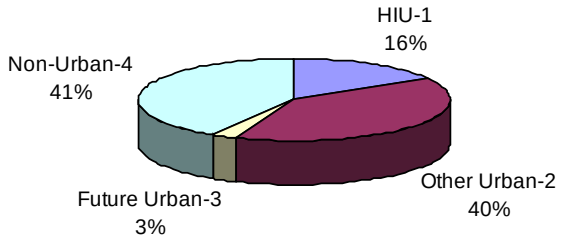
As described in Chapter 2 and summarized in **Table 3-1** below, four Conflicting Use Categories have been established for this ESEE analysis:

Table 3-1
Conflicting Use Categories

Category	Zones/Areas Included	Acres
1) High Intensity Urban	▪ Commercial (COM) ▪ Industrial (IND) ▪ Mixed-Use (MU) ▪ Regional Centers, Town Centers and Station Community Areas	21,461
2) Other Urban	▪ Residential (SFR, MFR) ▪ Other (INST, PF)	51,767
3) Future Urban	▪ 2002 UGB Expansion Areas	3,423
4) Non-Urban	▪ Farm/Forest (FF) ▪ Rural (RUR, RR)	54,136
TOTAL ACRES		**130,786**

As shown in **Figure 3-1**, below, more than 80% of the land in the Tualatin Basin ESEE Study Area is within the Non-Urban and Other Urban conflicting use categories.

Figure 3-1
Percentage of Study Area within each Conflicting Use Category



Environmental Categories

Table 3-2 establishes criteria for ranking five Environmental Categories (A through E) based on the scores provided by Metro's Goal 5 Inventory of Riparian and Wildlife resources and assessment of Habitats of Concern (HOC). Through the inventory process, Metro evaluated riparian and wildlife resources as follows:

- Riparian Corridors -- Metro identified areas where landscape features make a "primary" (score of six points) or "secondary" (score of one point) contribution to providing one or more of the following ecological function to the stream:
  1. Microclimate and shade
  2. Streamflow moderation and water storage
  3. Bank stabilization, sediment and pollution control
  4. Large wood and channel dynamics
  5. Organic matter input

- Wildlife Habitat -- The Goal 5 rule defines wildlife habitat as areas that wildlife depend on to meet their needs for food, water, shelter, and breeding. Metro mapped wildlife habitat based on specific landscape features associated with these characteristics. Features include stands of trees, woody vegetation, meadows, and wetlands. Metro's wildlife model is based on four criteria:
  1. habitat patch size (minimum patch size of 2 acres unless a Habitat of Concern),
  2. proximity to water sources,
  3. proximity to other natural areas, and
  4. forest interior habitat.

  In addition to the wildlife habitat model, Metro worked with local experts and agency staff to identify "Habitats of Concern." Habitats of Concern are those sites known to be critical for sensitive species or to be scarce and declining in the Metro region.

For the purposes of the Tualatin Basin ESEE, the Goal 5 resources have been grouped into the following three categories:

Class I Significant Resources:

- Class I riparian/wildlife corridors provide three to five primary functions. Wildlife habitat and habitats of concern are also included in these areas where they overlay with the high value riparian resource. Class I includes rivers, streams, stream-associated wetlands, undeveloped floodplains, forest canopy within 100 feet of a stream, and forest canopy within 200 feet of streams with adjacent steep slopes.
- Class A upland wildlife habitat is high value wildlife habitat areas scoring seven to nine points in the wildlife model. This category may also contain areas providing secondary functions for riparian corridors and Habitats of Concern located outside of riparian corridors.

Class II Significant Resources:

- Class II riparian/wildlife corridors provide one to two primary functional values and one or more secondary functions. Wildlife habitat is included. Includes rivers, streams, 50-foot area along developed streams, forest canopy or low structure vegetation within 200

feet of streams, and portions of undeveloped floodplains extending beyond 300 feet of streams. Class II is elevated to Class I with a Habitat of Concern.

- Class B upland wildlife habitat are medium value upland wildlife habitat areas scoring four to six points in the wildlife model. These areas include forest patches with low structure connector patches along streams and rivers. This resource category may also contain areas providing secondary functions for riparian corridors.

Class III Significant Resources:

- Class III riparian corridors are areas that have only riparian value (located outside of wildlife habitat areas) such as developed floodplains and small forest canopies that are disassociated from streams.

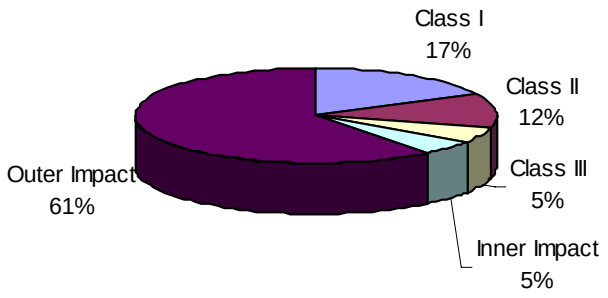
Class C upland wildlife habitat includes areas scoring two to three points in the wildlife habitat model, including forest patches and smaller connector patches along streams and rivers.

Table 3-2
Environmental Categories

Category	Resources Included	Acres
A) Class I	• Riparian/Wildlife Corridors, 18 to 30 points • Upland Wildlife Habitat, 7 to 9 • Habitats of Concern (HOC)	22,506
B) Class II	• Riparian/Wildlife Corridors, 6 to 17 points • Upland Wildlife Habitat, 4 to 6 points	15,452
C) Class III	• Riparian/Wildlife Corridors, 1 to 5 points • Upland Wildlife Habitat, 2 to 3 points	6,815
D) Inner Impact Area	• Based on Metro's impact areas	6,842
E) Outer Impact Areas	• Includes remainder of basin	79,171
TOTAL ACRES		**130,786**

As shown in **Figure 3-2** below, most of the land (61%) in the Tualatin Basin ESEE Study Area is within Environmental Category E (Outer Impact Area).

Figure 3-2
Percentage of Study Area within each Environmental Category



Analysis Categories

As shown in **Table 3-3**, cross tabulating the four Conflicting Use Categories and the five Resource Categories results in the creation of twenty "Analysis Categories", which are listed by name in **Table 3-4**. As shown in **Table 3-4**, the largest individual Analysis Category in the Tualatin Basin ESEE Study Area is Category 2E (Other Urban Areas in Outer Impact Areas). The amount of land in each environmental category within each conflicting use Class is shown in **Figures 3-3a** through **3-3d**.

Table 3-3
Cross Tabulation of Conflicting Use and Environmental Categories

Environmental Category		Conflicting Use Category			
		1	**2**	**3**	**4**
		High Intensity Urban (HIU)	Other Urban (OU)	Future Urban (FU)	Non-Urban (NU)
A	Class I resource	1A	2A	3A	4A
B	Class II resource	1B	2B	3B	4B
C	Class III resource	1C	2C	3C	4C
D	Inner Impact Area	1D	2D	3D	4D
E	Outer Impact Area	1E	2E	3E	4E

Table 3-4
Analysis Categories

Analysis Category	Description	Acres	% of Total Area
1A	High Intensity Urban Areas with Class I Resource Values	2,169	2%
1B	High Intensity Urban Areas with Class II Resource Values	1,012	1%
1C	High Intensity Urban Areas with Class III Resource Values	1,065	1%
1D	High Intensity Urban Areas in Inner Impact Areas	1,181	1%
1E	High Intensity Urban Areas in Outer Impact Areas	16,034	12%
Subtotal	High Intensity Urban Areas	21,461	16%
2A	Other Urban Areas with Class I Resource Values	6,735	5%
2B	Other Urban Areas with Class II Resource Values	4,154	3%
2C	Other Urban Areas with Class III Resource Values	2,061	2%
2D	Other Urban Areas in Inner Impact Areas	3,562	3%
2E	Other Urban Areas in Outer Impact Areas	35,255	27%
Subtotal	Other Urban Areas	51,767	40%
3A	Future Urban Areas with Class I Resource Values	816	1%
3B	Future Urban Areas with Class II Resource Values	340	0%
3C	Future Urban Areas with Class III Resource Values	253	0%
3D	Future Urban Areas in Inner Impact Areas	195	0%
3E	Future Urban Areas in Outer Impact Areas	1,819	1%
Subtotal	Future Urban Areas	3,423	3%
4A	Non-Urban Areas with Class I Resource Values	12,786	10%
4B	Non-Urban Areas with Class II Resource Values	9,946	8%
4C	Non-Urban Areas with Class III Resource Values	3,437	3%
4D	Non-Urban Areas in Inner Impact Areas	1,904	1%
4E	Non-Urban Areas in Outer Impact Areas	26,063	20%
Subtotal	Non-Urban Areas	54,136	41%
	TOTAL ACRES	130,786	100%

1

Figure 3-3a
Percentage of High Intensity Urban Areas within each Environmental Category

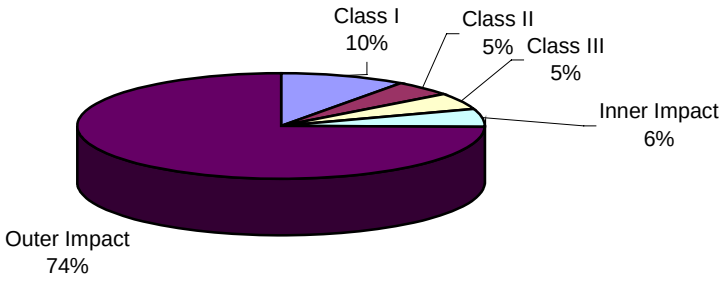
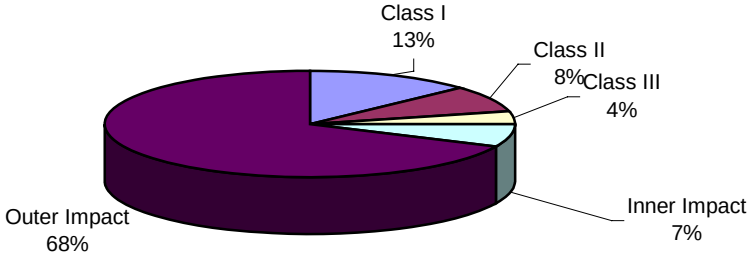


Figure 3-3b
Percentage of Other Urban Areas within each Environmental Category



2
3
4
5

Figure 3-3c
Percentage of Future Urban Areas within each Environmental Category

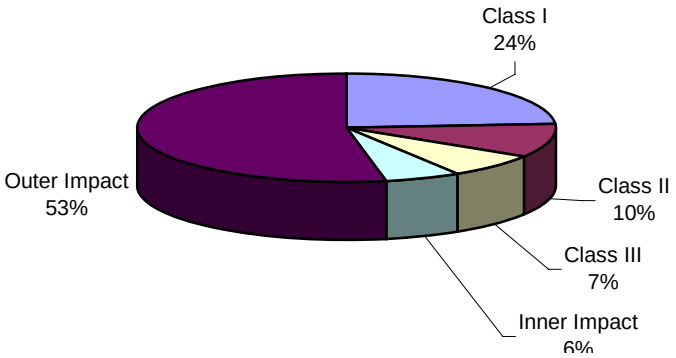
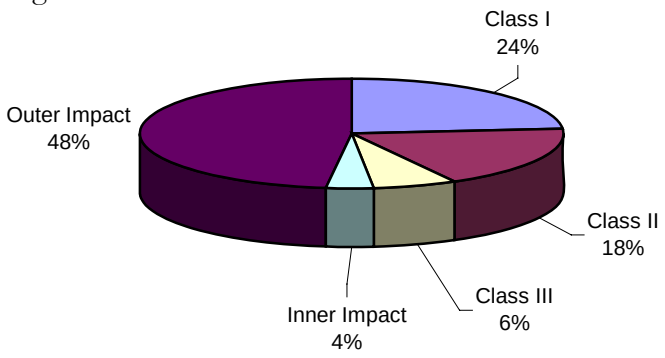


Figure 3-3d
Percentage of Non-Urban Areas within each Environmental Category



B. General ESEE Consequences by Analysis Category

Under Goal 5, management of resources can range from allowing the conflicting use under any circumstances to prohibiting the conflicting use in all circumstances. Between those two extremes there is a wide range of opportunities to limit where and how conflicting uses occur within the resource. In the following section of the ESEE, each of the twenty analysis categories described above are evaluated in terms of the potential positive and negative economic, social, environmental and energy consequences of:

- Allowing conflicting uses within the analysis category;
- Limiting (Strictly, Moderately or Lightly) conflicting uses within the analysis category; or
- Prohibiting conflicting uses within the analysis category.

"Allowing conflicting uses" means there would be no additional land use regulations restricting conflicting uses within the analysis category pursuant to Goal 5. However, existing water quality and/or wetland regulations implemented by the City, Clean Water Services (CWS), the Corps of Engineers (COE) and the Division of State Lands (DSL) would remain in effect. Existing CWS vegetated corridor regulations apply to lands within the Tualatin Basin ESEE Study Area. The existing CWS vegetated corridor regulations outline design requirements for storm and surface water management. The regulations are intended to prevent or reduce adverse impacts to the drainage system and water resources of the Tualatin River Basin. The CWS rules requiring a service provider letter, site assessment and the protection and enhancement of vegetated corridors, apply to development on properties with Water Quality Sensitive Areas and Vegetated Corridors.

"Limiting conflicting uses" means that, in addition to existing water quality and/or wetland regulations implemented by the City, Clean Water Services (CWS), the Corps of Engineers (COE) and the Division of State Lands (DSL), conflicting uses would be further restricted to implement Goal 5. The extent to which the conflicting use might be limited could vary based on the nature and severity of the impacts or its proposed location.

- *"Strictly limiting conflicting uses"* assumes that very little new development will be permitted, although public facilities may be allowed, and almost all existing vegetation and forest canopy will be maintained. Those minimum disturbance areas which are allowed will be

oriented to protect the resource and will implement low impact development practices and mitigate all adverse impacts of development.

- *"Moderately limiting conflicting uses"* assumes that some new development will be permitted, but those disturbance areas which are allowed will be oriented to protect the resource and will implement low impact development practices and mitigate adverse impacts of development.
- *"Lightly limiting conflicting uses"* assumes that more new development will be permitted than would be allowed under strictly or moderately limit. Disturbance areas will implement low impact development practices and mitigate adverse impacts of development to the extent feasible.

"Prohibiting conflicting uses" means that conflicting uses would be completely prohibited within the analysis category to the maximum extent possible (i.e., prohibited except where allowances are necessary to avoid a "taking" of property that would require compensation). Existing water quality regulations implemented by CWS, COE and DSL would remain in effect.

1. Analysis Category 1A: High Intensity Urban Areas with Class I Resource Values

As noted above, Analysis Category 1A includes Class I resources that occur on lands zoned commercial, industrial, and mixed-use as well as any other areas designated for regional centers and town centers. As noted in Chapter 2, the expectation is for increased intensity of use and public investment. Given this, Category 1A lands represent an area of potential conflict between the need for urban lands and the need to protect Class I resources, which are the highest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 2,169 acres of land within the Category 1A classification.

Table 3-5
Analysis Category 1A: High Intensity Urban (HIU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of higher intensity urban land. • Potential for new commercial/ industrial/ mixed use development on vacant land. • Cost impacts resulting from loss of developable land is avoided. • Future land improvements increase property value upon which conflicting use occurs and thus increase the property tax base. • Increased opportunity for infill and redevelopment in town centers, station communities and other urban areas. • Economic development is facilitated by ensuring adequate commercial / industrial / mixed use land for new jobs. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class I resources. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class I resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements.	• Potential for impact to historic and cultural values associated with significant natural resources. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Class I resources for future generations. • Loss of open space to help buffer densities and naturally

Table 3-5
Analysis Category 1A: High Intensity Urban (HIU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	• 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	manage water.
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Development of HIU areas may result in a higher degree of impact in the immediate area due to greater lot coverage, high traffic volume on the site, and higher density. • Potential for additional impervious surface. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed.

Table 3-5
Analysis Category 1A: High Intensity Urban (HIU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	tax base. • To the extent that conflicting uses are allowed, enhances potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for long-term capital facilities needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	• The extent to which conflicting uses are eliminated, may threaten long-term viability of the region's high-tech economic engine.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Partial loss of open space to help buffer densities and naturally manage water. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent that development is allowed: • Potential for additional impervious surface. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts.

Table 3-5
Analysis Category 1A: High Intensity Urban (HIU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	• Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class I resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class I resources.	• Property owners do not realize full development potential of higher intensity urban land. • Loss of potential for commercial/ industrial/ mixed use development on vacant land. • Cost impacts resulting from loss of developable land. • Future land improvements which could increase property values are precluded and thus there is no increase in the property tax base. • Economic development is facilitated by ensuring adequate commercial / industrial / mixed use land for new jobs. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with land development, may be reduced by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class 1 resources. • Decreased risk from hazardous materials. • Avoids potential of additional impervious surface.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration and open space dedication through development mitigation.

Table 3-5
Analysis Category 1A: High Intensity Urban (HIU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	• Avoids impacts to native vegetation and stream shading. • Avoids potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoids potential downstream water quality impacts. • Increased opportunities for property acquisition.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 1A: Moderately Limit.
In order to balance the need for higher intensity urban lands and the need to protect Class I resources, which are the highest quality resources, as a general recommendation conflicting uses should be moderately limited on Category 1A lands. These areas represent focused public investment and planning and are strategic to the economic viability of the basin; however, allowing conflicting uses too fully could result in a significant impact to the highest quality natural resources in the basin. Moderately limiting conflicting uses will permit some new development, but disturbance areas will be oriented to protect the resource and low impact development practices should be encouraged.

2. Analysis Category 1B: High Intensity Urban Areas with Class II Resource Values

As noted above, Analysis Category 1B includes Class II resources that occur on lands zoned commercial, industrial, and mixed-use as well as any other areas designated for regional centers and town centers. As noted in Chapter 2, the expectation is for increased intensity of use and public investment. Given this, Category 1B lands represent an area of potential conflict between the need for urban lands and the need to protect Class II resources, which are second highest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 1,012 acres of land within the Category 1B classification.

Table 3-6
Analysis Category 1B: High Intensity Urban (HIU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of higher intensity urban land. • Potential for new commercial/ industrial/ mixed use development on vacant land. • Cost impacts resulting from loss of developable land are avoided. • Future land improvements increase property value and thus increase the property tax base. • Increased opportunity for infill and redevelopment in town centers, station communities and other urban areas. • Economic development is facilitated by ensuring adequate commercial / industrial / mixed use land for new jobs. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class II resources. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class II resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements.	• Increased potential for impact to historic and cultural values due to increased likelihood of development. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Class II resources for future generations. • Loss of open space to help buffer densities and naturally manage water.

Table 3-6
Analysis Category 1B: High Intensity Urban (HIU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	• Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Development of HIU areas may result in a higher degree of impact in immediate area due to greater lot coverage, high traffic volume on the site, and higher density. • Potential for additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for future acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed, enhances	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may threaten long-term viability of the region's high-tech economic

Table 3-6
Analysis Category 1B: High Intensity Urban (HIU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for long-term capital facilities needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	engine.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Partial loss of open space to help buffer densities and naturally manage water. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts.	• Partial loss of opportunity to provide voluntary stewardship by property owners. • To the extent that development is allowed: • Potential for additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy	• Increased opportunities to provide compact development	• Increased energy costs due to increased travel may be avoided

Table 3-6
Analysis Category 1B: High Intensity Urban (HIU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
(Limit)	patterns with grid pattern streets.	if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class II resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class II resources.	• Property owners do not realize full development potential of higher intensity urban land. • Loss of potential for square feet of commercial/ industrial/ mixed use development on vacant land. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase the property tax base. • Economic development is facilitated by ensuring adequate commercial / industrial / mixed use land for new jobs. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with land development, may be reduced by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class II resources. • Decreased risk from hazardous materials. • Potentially avoid increase in impervious surface area. • Avoids impacts to native vegetation and stream shading. • Avoids potential for erosion. • No increase in barriers to wildlife.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

Table 3-6
Analysis Category 1B: High Intensity Urban (HIU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	• No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoids potential downstream water quality impacts.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 1B: Lightly Limit.
Class II resources provide fewer functional values than Class I resources and do not include any habitats of concern. Therefore, in order to meet the need for higher intensity urban lands while still providing some protection for Class II resources, as a general recommendation conflicting uses should be lightly limited in Category 1B lands. These areas represent focused public investment and planning and are strategic to the economic viability of the basin; however, allowing conflicting uses too fully could result in a significant impact to important significant natural resources in the basin. Lightly limiting conflicting use will allow more new development than would be permitted than would be allowed under strictly or moderately limit. Disturbance areas will implement low impact development practices and mitigate adverse impacts of development to the extent feasible.

3. Analysis Category 1C: High Intensity Urban Areas with Class III Resource Values

As noted above, Analysis Category 1C includes Class III resources that occur on lands zoned commercial, industrial, and mixed-use as well as any other areas designated for regional centers and town centers. As noted in Chapter 2, the expectation is for increased intensity of use and public investment. Given this, Category 1C lands represent an area of potential conflict between the need for urban lands and the need to protect Class III resources, which are the lowest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 1,065 acres of land within the Category 1C classification.

Table 3-7
Analysis Category 1C: High Intensity Urban Areas (HIU) with Class III Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of higher intensity urban land. • Potential for new commercial/ industrial/ mixed use development on vacant land. • Cost impacts of scarcity resulting from loss of developable land avoided. • Future land improvements increase property value upon which conflicting use occurs and thus increase the property tax base. • Increased opportunity for infill and redevelopment in town centers, station communities and other urban areas. • Economic development is facilitated by ensuring adequate commercial / industrial / mixed use land for new jobs. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class III resources. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class III resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted.	• Increased potential for impact to historic and cultural values due to increased likelihood of development. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Class III resources for future generations. • Loss of open space to help buffer densities and naturally manage water.

Table 3-7
Analysis Category 1C: High Intensity Urban Areas (HIU) with Class III Resource Values

	Positive Consequences	Negative Consequences
	• Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Development of HIU areas may result in a higher degree of impact in immediate area due to greater lot coverage, high traffic volume on the site, and higher density. • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for future acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid cost impacts of decreased land supply. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may

Table 3-7
Analysis Category 1C: High Intensity Urban Areas (HIU) with Class III Resource Values

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are allowed, enhances potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for long-term capital facilities needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	threaten long-term viability of the region's high-tech economic engine.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially affected by Goal 5 requirements. • Partial loss of open space to help buffer densities and naturally manage water. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent that development is allowed: • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts.

Table 3-7
Analysis Category 1C: High Intensity Urban Areas (HIU) with Class III Resource Values

	Positive Consequences	Negative Consequences
	• More property acquisition opportunities available.	
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class III resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class III resources.	• Property owners do not realize full development potential of higher intensity urban land. • Loss of potential commercial/ industrial/ mixed use development on vacant land. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase the property tax base. • Economic development is facilitated by ensuring adequate commercial / industrial / mixed use land for new jobs. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with land development, may be reduced by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class III resources. • Decreased risk from hazardous materials. • Avoid potential creation of additional impervious surface area.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

Table 3-7
Analysis Category 1C: High Intensity Urban Areas (HIU) with Class III Resource Values

	Positive Consequences	Negative Consequences
	• Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Prohibit)	• Help maintain microclimate effect that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 1C: Lightly limit

Class III resources provide only secondary functional values and do not include any habitats of concern. Therefore, in order to meet the need for higher intensity urban lands while still providing some limited protection for Class III resources, as a general recommendation conflicting uses should be lightly limited in Category 1C lands. These areas represent focused public investment and planning and are strategic to the economic viability of the basin; however, allowing conflicting uses too fully could result in a significant impact to important significant natural resources in the basin. Lightly limiting conflicting use will allow more new development than would be permitted than would be allowed under strictly or moderately limit. Disturbance areas will implement low impact development practices and mitigate adverse impacts of development to the extent feasible

4. Analysis Category 1D: High Intensity Urban Areas in Inner Impact Areas

As noted above, Analysis Category 1D includes inner impact areas that occur on lands zoned commercial, industrial, and mixed-use as well as any other areas designated for regional centers and town centers. As noted in Chapter 2, the expectation is for increased intensity of use and public investment. Given this, Category 1D lands represent an area of potential conflict between the need for urban lands and the need to restrict activities in inner impact areas in order to protect adjacent resources. Within the Tualatin Basin ESEE Study Area there are approximately 1,181 acres of land within the Category 1D classification.

Table 3-8
Analysis Category 1D: High Intensity Urban (HIU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development of higher intensity urban land. • Potential for new commercial/ industrial/ mixed use development on vacant land. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Increased opportunities for infill and redevelopment in town centers, station communities and other urban areas. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from the impacts to adjacent resources from the loss of of Inner Impact Areas. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the impacts to adjacent resources from the loss of Inner Impact Areas. • Increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent resources. • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for impact area property owners due to Goal 5 requirements. • Impact area property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted.	• Increased potential for impact to historic and cultural values due to increased likelihood of development. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Potential loss or degradation of adjacent Goal 5 resources for future generations. • Loss of open space to help buffer densities and naturally

Table 3-8
Analysis Category 1D: High Intensity Urban (HIU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	manage water.
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in the study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Development of HIU areas may result in a higher degree of impact in immediate area due to greater lot coverage, high traffic volume on the site, and higher density. • Potential creation of additional impervious surface area. • Loss of Inner Impact Areas could result in loss of native vegetation and stream shading, increased potential for erosion, and additional barriers to wildlife. • Disturbance of adjacent habitat resulting in the movement or dispersal of wildlife. • Loss of Inner Impact Area would result in increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas and increased impacts from adjacent pesticide, herbicide and fertilizer use adjacent to Goal 5 resources. • Impacts to adjacent Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased due to impacts to adjacent Goal 5 resources. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc.

Table 3-8
Analysis Category 1D: High Intensity Urban (HIU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed, enhances potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for long-term capital facilities needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed and impacts to adjacent Goal 5 resources are limited. • The extent to which conflicting uses are eliminated, may threaten long-term viability of the region's high-tech economic engine.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Partial loss of open space to help buffer densities and naturally manage water. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing adjacent natural resources, depending on whether limits on uses successfully avoid impacts. • Reduced potential for impacts to adjacent Goal 5 resources from additional impervious surface, loss of native vegetation and stream shading, potential for erosion, additional barriers to wildlife. • Reduced impacts to adjacent Goal 5 habitat resulting in the movement or dispersal of wildlife. • Reduced impacts to adjacent Goal 5 resources due to increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas, pesticide, herbicide and fertilizer use. • Reduced impacts to adjacent Goal 5 resources which could result in increased fish habitat disturbance and potential downstream water quality impacts.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent that development is allowed: • Potential creation of additional impervious surface area. • Loss of Inner Impact Areas could result in loss of native vegetation and stream shading, increased potential for erosion, and additional barriers to wildlife. • Disturbance of adjacent habitat resulting in the movement or dispersal of wildlife. • Loss of Inner Impact Area would result in increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas and increased impacts from adjacent pesticide, herbicide and fertilizer use adjacent to Goal 5 resources. • Impacts to adjacent Goal 5 resources could result in increased

Table 3-8
Analysis Category 1D: High Intensity Urban (HIU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• More property acquisition opportunities available.	fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from impacts to adjacent Goal 5 resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent Goal 5 resources. • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from adjacent Goal 5 resources.	• Property owners do not realize full development potential of higher intensity urban land. • Loss of development capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with land development, may be reduced by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to adjacent Goal 5 resources. • Decreased risk from hazardous materials.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open

Table 3-8
Analysis Category 1D: High Intensity Urban (HIU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• Avoided potential ____ square feet of additional impervious surface adjacent to Goal 5 resources • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	space dedication through development mitigation.
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 1D: Lightly limit

Category 1D includes inner impact areas that occur on lands zoned commercial, industrial, and mixed-use as well as any other areas designated for regional centers and town centers. The expectation for these lands is for increased intensity of use and public investment. In inner impact areas the focus is on how conflicting uses may impact adjacent resources and possible restoration activities. Therefore, in order to meet the need for higher intensity urban lands while still providing some protection for adjacent resources, as a general recommendation conflicting uses should be lightly limited in Category 1D lands. In addition to considering the conflicting use category, it may also be appropriate to allow the program to vary the degree of limit relative to the classification of the adjacent resource (e.g., impact areas adjacent to Class I resources could provide more protection than those adjacent to Class III resources).

5. Analysis Category 1E: High Intensity Urban Areas in Outer Impact Areas

As noted above, Analysis Category 1E includes outer impact areas that occur on lands zoned commercial, industrial, and mixed-use as well as any other areas designated for regional centers and town centers. As noted in Chapter 2, the expectation is for increased intensity of use and public investment. Given this, Category 1E lands represent an area of potential conflict between the need for urban lands and the need to regulate activities in outer impact areas in order to protect resources within the basin. Within the Tualatin Basin ESEE Study Area there are approximately 16,034 acres of land within the Category 1E classification.

Table 3-9
Analysis Category 1E: High Intensity Urban (HIU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of higher intensity urban land. • Increased development potential on remaining vacant lands. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Increased opportunities for infill and redevelopment in town centers, station communities and other urban areas. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from the impacts to resources within the basin. • Increased municipal spending on flood and water quality management resulting from the impacts to resources within the basin. • Increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to resources within the basin. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No additional costs for property owners due to Goal 5 requirements. • 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Potential loss or degradation of Goal 5 resources within the basin for future generations. • Loss of open space to help buffer densities and naturally manage water.

Table 3-9
Analysis Category 1E: High Intensity Urban (HIU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in the study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Development of HIU areas may result in a higher degree of impact in immediate area due to greater lot coverage, high traffic volume on the site, and higher density. • Potential creation of additional impervious surface area. • Unregulated development of Outer Impact Areas could result in loss of vegetation and increased potential for erosion. • Unregulated development of Outer Impact Areas could result in increased introduction of invasive plant species from additional landscaped areas and increased impacts from adjacent pesticide, herbicide and fertilizer use within the basin. • Impacts to Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased due to impacts to Goal 5 resources within the basin. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• To the extent that conflicting uses are allowed without significant additional restrictions, could help to avoid creating cost impacts of scarcity and additional environmental regulation. • To the extent that conflicting uses are allowed without significant additional regulation, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed without significant additional regulation, enhances potential for local economic development. • To the extent that conflicting uses are allowed without significant additional regulation, helps to ensure land for long-term capital facilities needs.	• Moderately increased municipal service costs. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed and impacts to Goal 5 resources within the basin are limited. • The extent to which conflicting uses are regulated, may threaten long-term viability of the region's high-tech economic engine.

Table 3-9
Analysis Category 1E: High Intensity Urban (HIU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Partial loss of open space to help buffer densities and naturally manage water. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing adjacent natural resources, depending on whether limits on uses successfully avoid impacts. • Reduced potential for impacts to adjacent Goal 5 resources from additional impervious surface, loss of native vegetation and stream shading, potential for erosion, additional barriers to wildlife. • Reduced impacts to adjacent Goal 5 habitat resulting in the movement or dispersal of wildlife. • Reduced impacts to adjacent Goal 5 resources due to increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas, pesticide, herbicide and fertilizer use. • Reduced impacts to adjacent Goal 5 resources which could result in increased fish habitat disturbance and potential downstream water quality impacts. • More property acquisition opportunities available. • Opportunities for stewardship, with some additional regulations.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent that development is allowed: • Potential creation of additional impervious surface area. • Potential loss of vegetation and increased potential for erosion. • Potential increased introduction of invasive plant species from additional landscaped areas and increased impacts from adjacent pesticide, herbicide and fertilizer use within the basin. • Potential Goal 5 resource impacts which could increase fish habitat disturbance and potential downstream water quality impacts.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Longer travel times and higher energy usage may result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from impacts to adjacent Goal 5 resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent Goal 5 resources. • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from adjacent Goal 5 resources.	• Property owners do not realize full development potential of higher intensity urban land. • Loss of development capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with land development, may be reduced by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to Goal 5 resources within the basin. • Decreased risk from hazardous materials. • Avoidance of additional impervious surface within the basin. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation. • Development restrictions within UGB may lead to UGB expansion or more dispersed development.

	• No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 1E: Allow

Category 1E includes outer impact areas that occur on lands zoned commercial, industrial, and mixed-use as well as any other areas designated for regional centers and town centers. The expectation for these lands is for increased intensity of use and public investment. In outer impact areas the focus is on the inter-connectedness of the natural system and how individual actions and conflicting uses may have an overall impact on water quality within the basin. Given the large amount of land within the outer impact area, the focus of future programs in the outer impact area could emphasize voluntary stewardship, water quality education and funding. Therefore, as a general recommendation conflicting uses should be allowed in Category 1E lands.

6. Analysis Category 2A: Other Urban Areas with Class I Resource Values

Analysis Category 2A includes Class I resources that occur on lands primarily zoned single family and multi-family residential, as well as those designated for institutional use and public facilities. As noted in Chapter 2, there is a medium to low expectation for development or redevelopment in these areas. Category 2A lands represent an area of potential conflict between the need for residential land and associated services and the need to protect Class I resources, which are the highest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 6,735 acres of land within the Category 2A classification.

Table 3-10
Analysis Category 2A: Other Urban (OU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Full development potential of urban land is realized. • Potential additional housing capacity. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class I resources. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class I resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Category 1 resources for future generations.

Table 3-10
Analysis Category 2A: Other Urban (OU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	• Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design is enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased predation and disturbance of wildlife by domestic pets. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed, helps to ensure land for institutional needs.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may impact housing affordability.

Table 3-10
Analysis Category 2A: Other Urban (OU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent that development is allowed: • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased predation and disturbance of wildlife by domestic pets. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.

	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class I resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers and home buyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class I resources.	• Property owners do not realize full development potential of urban land. • Potential loss of housing capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Housing opportunities and employment associated with land development are impacted by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Category 1 resources. • Decreased risk from hazardous materials. • Avoid potential creation of additional impervious surface area. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

	• No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 2A: Strictly limit

Analysis Category 2A includes Class I resources that occur on lands primarily zoned single family and multi-family residential, as well as those designated for institutional use and public facilities. The expectation for these lands is for increased continued residential use, infill and new development and redevelopment. In order to balance the need for new residential development and the redevelopment of existing neighborhoods with the need to protect Class I resources, which are the highest quality resources, as a general recommendation conflicting uses should be strictly limited in Category 2A lands. Strictly limiting conflicting use will permit very little new development, although public facilities may be allowed. Almost all existing vegetation and forest canopy will be maintained. Those minimum disturbance areas which are allowed should be oriented to protect the resource and low impact development practices should be strongly encouraged.

7. Analysis Category 2B: Other Urban Areas with Class II Resource Values

Analysis Category 2B includes Class II resources that occur on lands zoned single family and multi-family residential, as well as those designated for institutional use and public facilities. As noted in Chapter 2, there is a medium to low expectation for development or redevelopment in these areas. Category 2B lands represent an area of potential conflict between the need for residential land and associated services and the need to protect Class II resources, which are second highest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 4,154 acres of land within the Category 2B classification.

Table 3-11
Analysis Category 2B: Other Urban (OU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Full development potential of urban land is realized. • Potential additional housing capacity. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class II resources. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class II resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of valuable Class II resources for future generations.

Table 3-11
Analysis Category 2B: Other Urban (OU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	• Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased predation and disturbance of wildlife by domestic pets. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed, helps to ensure land for institutional needs.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may impact housing affordability.

Table 3-11
Analysis Category 2B: Other Urban (OU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent that development is allowed: • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased predation and disturbance of wildlife by domestic pets. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.

	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class II resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers and home buyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class II resources.	• Property owners do not realize full development potential of their land. • Potential loss of housing capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Housing opportunities and employment associated with land development are impacted by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class II resources. • Decreased risk from hazardous materials. • Avoid potential creation of additional impervious surface area. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

	• No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 2B: Moderately limit

Analysis Category 2B includes Class II resources that occur on lands zoned single family and multi-family residential, as well as those designated for institutional use and public facilities. The expectation for these lands is for increased continued residential use, infill and new development and redevelopment. In order to balance the need for new residential development and the redevelopment of existing neighborhoods with the need to protect Class II resources, which provide some primary functions, as a general recommendation conflicting uses should be moderately limited in Category 2B lands. Moderately limiting conflicting use will permit some new development and redevelopment, but disturbance areas should be oriented to protect the resource and low impact development practices should be encouraged.

8. Analysis Category 2C: Other Urban Areas with Class III Resource Values

Analysis Category 2C includes Class III resources that occur on lands primarily zoned single family and multi-family residential, as well as those designated for institutional use and public facilities. As noted in Chapter 2, there is a medium to low expectation for development or redevelopment in these areas. Category 2C lands represent an area of potential conflict between the need for residential land and associated services and the need to protect Class III resources, which are the lowest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 2,061 acres of land within the Category 2C classification.

Table 3-12
Analysis Category 2C: Other Urban (OU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Full development potential of urban land is realized. • Potential additional housing capacity. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class III resources. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class III resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Class III resources for future generations.

Table 3-12
Analysis Category 2C: Other Urban (OU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	• Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased predation and disturbance of wildlife by domestic pets. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed, helps to ensure land for institutional needs.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may impact housing affordability.

Table 3-12
Analysis Category 2C: Other Urban (OU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent to which development is allowed: • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased predation and disturbance of wildlife by domestic pets. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class III resources.	• Property owners do not realize full development potential of their land. • Potential loss of housing capacity.

Table 3-12
Analysis Category 2C: Other Urban (OU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	• Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers and home buyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water Class III resources.	• Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Housing opportunities and employment associated with land development are impacted by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class III resources. • Decreased risk from hazardous materials. • Avoid potential creation of additional impervious surface area. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

Table 3-12
Analysis Category 2C: Other Urban (OU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 2C: Lightly limit

Analysis Category 2C includes Class III resources that occur on lands zoned single family and multi-family residential, as well as those designated for institutional use and public facilities. The expectation for these lands is for increased continued residential use, infill and new development and redevelopment. In order to balance the need for new residential development and the redevelopment of existing neighborhoods with the need to protect Class III resources, which provide some secondary functions, as a general recommendation conflicting uses should be lightly limited in Category 2C lands. Lightly limiting conflicting use will allow more new development than would be allowed under strictly or moderately limit. Low impact development practices should be encouraged.

9. Analysis Category 2D: Other Urban Areas in Inner Impact Areas

Analysis Category 2D includes inner impact areas that occur on lands primarily zoned single family and multi-family residential, as well as those designated for institutional use and public facilities. As noted in Chapter 2, there is a medium to low expectation for development or redevelopment in these areas. Category 2D lands represent an area of potential conflict between the need for residential land and associated services and the need to restrict activities in inner impact areas in order to protect adjacent resources. Within the Tualatin Basin ESEE Study Area there are approximately 3,562 acres of land within the Category 2D classification.

Table 3-13
Analysis Category 2D: Other Urban (OU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Full development potential of urban land is realized. • Potential increase in housing capacity. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from the impacts to adjacent resources from the loss of Inner Impact Areas. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the impacts to adjacent resources from the loss of Inner Impact Areas. • Increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent resources. • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for impact area property owners due to Goal 5 requirements. • Impact area property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Potential loss or degradation of adjacent Goal 5 resources for future generations.

Table 3-13
Analysis Category 2D: Other Urban (OU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Potential creation of additional impervious surface area. • Loss of Inner Impact Areas could result in loss of native vegetation and stream shading, increased potential for erosion, and additional barriers to wildlife. • Increased potential for predation and habitat disturbance in adjacent Goal 5 resources from domestic pets. • Disturbance of adjacent habitat resulting in the movement or dispersal of wildlife. • Loss of Inner Impact Area would result in increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas and increased impacts from adjacent pesticide, herbicide and fertilizer use adjacent to Goal 5 resources. • Impacts to adjacent Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased due to impacts to adjacent Goal 5 resources. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed,	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, and home

Table 3-13
Analysis Category 2D: Other Urban (OU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed, enhances potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for institutional needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	buyers to the extent that conflicting uses are allowed and impacts to adjacent Goal 5 resources are limited. • The extent to which conflicting uses are eliminated may affect the availability of affordable housing.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing and employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing adjacent natural resources, depending on whether limits on uses successfully avoid impacts. • Reduced potential for impacts to adjacent Goal 5 resources from additional impervious surface, loss of native vegetation and stream shading, potential for erosion, additional barriers to wildlife. • Reduced impacts to adjacent Goal 5 habitat from domestic pets. • Reduced impacts to adjacent Goal 5 habitat resulting in the movement or dispersal of wildlife. • Reduced impacts to adjacent Goal 5 resources due to increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas, pesticide, herbicide and fertilizer use. • Reduced impacts to adjacent Goal 5 resources which could result in increased fish habitat disturbance and potential downstream water quality impacts. • More property acquisition opportunities available.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent to which development is allowed: • Potential creation of additional impervious surface area. • Loss of Inner Impact Areas could result in loss of native vegetation and stream shading, increased potential for erosion, and additional barriers to wildlife. • Increased potential for predation and habitat disturbance in adjacent Goal 5 resources from domestic pets. • Disturbance of adjacent habitat resulting in the movement or dispersal of wildlife. • Loss of Inner Impact Area would result in increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas and increased impacts from adjacent pesticide, herbicide and fertilizer use adjacent to Goal 5 resources. • Impacts to adjacent Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts.

Table 3-13
Analysis Category 2D: Other Urban (OU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
		• Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from impacts to adjacent Goal 5 resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent Goal 5 resources. • No cost increases resulting from increased environmental impacts would be passed on to developers and home buyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from adjacent Goal 5 resources. • No impacts to adjacent Goal 5 habitat from domestic pets.	• Property owners do not realize full development potential of their land. • Potential loss of housing capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local affordable housing and economic development. • Reduced supply of suitable land for institutional facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Housing opportunities and employment associated with land development impacted by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to adjacent Goal 5 resources. • Decreased risk from hazardous materials.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open

Table 3-13
Analysis Category 2D: Other Urban (OU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• Avoids additional impervious surface area adjacent to Goal 5 resources. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	space dedication through development mitigation.
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 2D: Lightly limit

Analysis Category 2D includes inner impact areas that occur on lands primarily zoned single family and multi-family residential, as well as those designated for institutional use and public facilities. The expectation for these lands is for increased continued residential use, infill and new development and redevelopment. In inner impact areas the focus is on how conflicting uses may impact adjacent resources and possible restoration activities. Therefore, in order to meet the need for residential lands and the needs of property owners to redevelop their property while still providing some protection for adjacent resources, as a general recommendation conflicting uses should be lightly limited in Category 2D lands. In addition to considering the conflicting use category, it may also be appropriate to allow the program to vary the degree of limit relative to the classification of the adjacent resource (e.g., impact areas adjacent to Class I resources could provide more protection than those adjacent to Class III resources).

10. Analysis Category 2E: Other Urban Areas in Outer Impact Areas

Analysis Category 2E includes outer impact areas that occur on lands primarily zoned single-family and multi-family residential, as well as those designated for institutional use and public facilities. As noted in Chapter 2, there is a medium to low expectation for development or redevelopment in these areas. Category 2E lands represent an area of potential conflict between the need for residential land and associated services and the need to regulate activities in outer impact areas in order to protect resources within the basin. Within the Tualatin Basin ESEE Study Area there are approximately 35,255 acres of land within the Category 2E classification.

Table 3-14
Analysis Category 2E: Other Urban (OU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Full development potential of urban land is realized. • Potential increase in housing capacity. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from the impacts to resources within the basin. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the impacts to resources within the basin. • Increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to resources within the basin. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No additional costs for property owners due to Goal 5 requirements. • 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Potential loss or degradation of Goal 5 resources within the basin for future generations.
Environmental (Allow)	• Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title	• Potential creation of additional impervious surface area. • Unregulated development of Outer Impact Areas could result in loss of vegetation and increased potential for erosion.

Table 3-14
Analysis Category 2E: Other Urban (OU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	3 water quality regulations.	• Unregulated development of Outer Impact Areas could result in increased introduction of invasive plant species from additional landscaped areas, increased impacts from adjacent pesticide, herbicide and fertilizer use within the basin, increased impacts from domestic pets. • Impacts to Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased due to impacts to Goal 5 resources within the basin. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• To the extent that conflicting uses are allowed without significant additional restrictions, could help to avoid creating cost impacts of scarcity and additional environmental regulation. • To the extent that conflicting uses are allowed without significant additional regulation, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed without significant additional regulation, enhances potential for local economic development. • To the extent that conflicting uses are allowed without significant additional regulation, helps to ensure land for institutional needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	• Moderately increased municipal service costs. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed and impacts to Goal 5 resources within the basin are limited. • The extent to which conflicting uses are regulated may affect housing affordability within the basin.

Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing and employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing adjacent natural resources, depending on whether limits on uses successfully avoid impacts. • Reduced potential for impacts to adjacent Goal 5 resources from additional impervious surface, loss of native vegetation and stream shading, potential for erosion, additional barriers to wildlife. • Reduced impacts to adjacent Goal 5 habitat resulting in the movement or dispersal of wildlife. • Reduced impacts to adjacent Goal 5 resources due to increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas, pesticide, herbicide and fertilizer use. • Reduced impacts to adjacent Goal 5 resources which could result in increased fish habitat disturbance and potential downstream water quality impacts. • More property acquisition opportunities available. • Still opportunities for stewardship, with some additional regulations.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent to which development is allowed: • Potential creation of additional impervious surface area. • Potential loss of vegetation and increased potential for erosion. • Potential increased introduction of invasive plant species from additional landscaped areas, increased impacts from adjacent pesticide, herbicide and fertilizer use within the basin, and increased impacts from domestic pets. • Potential Goal 5 resource impacts which could increase fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Longer travel times and higher energy usage may result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from impacts to adjacent Goal 5 resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent Goal 5 resources.	• Property owners do not realize full development potential of their land. • Potential loss of housing capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated through increased housing supply. • Employment and income related to construction and

	• No cost increases resulting from increased environmental impacts would be passed on to developers and home buyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from adjacent Goal 5 resources.	development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Housing opportunities and employment associated with land development impacted by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to Goal 5 resources within the basin. • Decreased risk from hazardous materials. • Avoidance of additional impervious surface within the basin. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation. • May prevent more stringent regulations associated with development from being triggered. • Development restrictions within UGB may lead to UGB expansion.
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 2E: Allow

Analysis Category 2E includes outer impact areas that occur on lands primarily zoned single-family and multi-family residential, as well as those designated for institutional use and public facilities. The expectation for these lands is for increased continued residential use, infill and new development and redevelopment. In outer impact areas the focus is on the inter-connectedness of the natural system and how individual actions and conflicting uses may have an overall impact on water quality within the basin. Given the large amount of land within the outer impact area, the focus of future programs in the outer impact area could emphasize voluntary stewardship, water quality education and funding. Therefore, as a general recommendation conflicting uses should be allowed in Category 2E lands.

11. Analysis Category 3A: Future Urban Areas with Class I Resource Values

Analysis Category 3A applies to those lands that came into the Urban Growth Boundary in 2002 which are Class III Resources. Expected land uses and land values vary, depending on the 2040 Design Type designation. The expectation is that these areas will develop at an urban intensity, but the relative lack of existing development also increases the viable options for future protection measures. Possibilities of conflict between future urbanization and the need to protect Class I resources, which are the highest quality resources, exist on Category 3A lands, but so too do opportunities to create nature-sensitive urban communities. Within the Tualatin Basin ESEE Study Area there are approximately 816 acres of land within the Category 3A classification.

Table 3-15
Analysis Category 3A: Future Urban (FU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of future urban land. • Increased development potential on remaining vacant lands. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs. and housing. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Loss of Class I resources results in negative impact on employment and income from jobs that depend on quality of riparian and wildlife habitat. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class I resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses, home buyers and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Class I resources for future generations.

Table 3-15
Analysis Category 3A: Future Urban (FU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	• Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Development of Future Urban areas may result in a higher degree of impact in immediate area due to greater lot coverage, high traffic volume on the site, and higher density. • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may

Table 3-15
Analysis Category 3A: Future Urban (FU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are allowed, enhances potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for long-term capital facilities needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	threaten long-term viability of the region's high-tech economic engine.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing and employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent to which development is allowed: • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.

Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class I resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class I resources.	• Property owners do not realize full development potential of ___ acres of future urban land. • Loss of development capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and housing units. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with land development, may be reduced by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class I resources. • Decreased risk from hazardous materials. • Avoid potential creation of additional impervious surface area. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

	• No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 3A: Strictly limit

Analysis Category 3A applies to those lands that came into the Urban Growth Boundary in 2002 which are Class I Resources. Possibilities of conflict between future urbanization and the need to protect Class I resources, which are the highest quality resources, exist on Category 3A lands, but so too do opportunities to create nature-sensitive urban communities. In order to balance the new for new urban lands, especially the need for additional industrial lands, with the need to provide for the protection and enhancement of Class I resources, as a general recommendation conflicting uses should be strictly limited in Category 3A lands. Strictly limiting conflicting use will permit very little new development, although public facilities may be allowed. Almost all existing vegetation and forest canopy should be maintained. Those minimum disturbance areas which are allowed should be located to protect the resource and low impact development practices should be strongly encouraged.

12. Analysis Category 3B: Future Urban Areas with Class II Resource Values

Analysis Category 3B applies to those lands that came into the Urban Growth Boundary in 2002 which are Class II resources. Expected land uses and land values vary, depending on the 2040 Design Type designation. The expectation is that these areas will develop at an urban intensity, but the relative lack of existing development also increases the viable options for future protection measures. Possibilities of conflict between future urbanization and the need to protect Class II resources, which are the second highest quality resources, exist on Category 3B lands, but so too do opportunities to create nature-sensitive urban communities. Within the Tualatin Basin ESEE Study Area there are approximately 340 acres of land within the Category 3B classification.

Table 3-16
Analysis Category 3B: Future Urban (FU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of future urban land. • Increased development potential on remaining vacant lands. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and new housing units. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class II resources. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class II resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses, home buyers and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of valuable Class II resources for future generations.

Table 3-16
Analysis Category 3B: Future Urban (FU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	• Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Development of Future Urban areas may result in a higher degree of impact in immediate area due to greater lot coverage, high traffic volume on the site, and higher density. • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may

Table 3-16
Analysis Category 3B: Future Urban (FU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are allowed, enhances potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for long-term capital facilities needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	threaten long-term viability of the region's high-tech economic engine.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing and employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent to which development is allowed: • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.

Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class II resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class II resources.	• Property owners do not realize full development potential of ___ acres of future urban land. • Loss of development capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and housing units. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with land development, may be reduced by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class II resources. • Decreased risk from hazardous materials. • Avoid potential creation of additional impervious surface area. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

	• No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 3B: Strictly limit

Analysis Category 3B applies to those lands that came into the Urban Growth Boundary in 2002 which are Class II resources. Possibilities of conflict between future urbanization and the need to protect Class II resources, which provide primary functional values, exist on Category 3B lands, but so too do opportunities to create nature-sensitive urban communities. In order to balance the new for new urban lands, especially the need for additional industrial lands, with the need to provide for the protection and enhancement of Class II resources, as a general recommendation conflicting uses should be strictly limited in Category 3B lands. Strictly limiting conflicting use will permit very little new development, although public facilities may be allowed. Almost all existing vegetation and forest canopy will be maintained. Those minimum disturbance areas which are allowed should be oriented to protect the resource and low impact development practices should be strongly encouraged.

13. Analysis Category 3C: Future Urban Areas with Class III Resource Values

Analysis Category 3C applies to those lands that came into the Urban Growth Boundary in 2002 which are Class III resources. Expected land uses and land values vary, depending on the 2040 Design Type designation. The expectation is that these areas will develop at an urban intensity, but the relative lack of existing development also increases the viable options for future protection measures. Possibilities of conflict between future urbanization and the need to protect Class III resources, which are the lowest quality resources, exist on Category 3C lands, but so too do opportunities to create nature-sensitive urban communities. Within the Tualatin Basin ESEE Study Area there are approximately 253 acres of land within the Category 3C classification.

Table 3-17
Analysis Category 3C: Future Urban (FU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of future urban land. • Increased development potential on remaining vacant lands. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and new housing units. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class III resources. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the loss of Class III resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses, home buyers and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements. • 2040 densities and designs permitted.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Class III resources for future generations.

Table 3-17
Analysis Category 3C: Future Urban (FU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	• Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Development of Future Urban areas may result in a higher degree of impact in the immediate area due to greater lot coverage, high traffic volume on the site, and higher density. • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity. • To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may

Table 3-17
Analysis Category 3C: Future Urban (FU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are allowed, enhances potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for long-term capital facilities needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	threaten long-term viability of the region's high-tech economic engine.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing and employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid impacts. • Increased ability to gain enhancement or restoration through development mitigation. • Reduced potential for impacts from additional impervious surface. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise, light and glare. • Reduced potential for the introduction of invasive plant species from additional landscaped areas. • Reduced potential for impacts from pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent to which development is allowed: • Potential creation of additional impervious surface area. • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise, light and glare. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer use from additional landscaped areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.

Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class III resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class III resources.	• Property owners do not realize full development potential of ___ acres of future urban land. • Loss of development capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and new housing units. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with land development, may be reduced by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class III resources. • Decreased risk from hazardous materials. • Avoid potential creation of additional impervious surface area. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

	• No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 3C: Moderately limit

Analysis Category 3C applies to those lands that came into the Urban Growth Boundary in 2002 which are Class III resources. Possibilities of conflict between future urbanization and the need to protect Class III resources, which are the lowest quality resources, exist on Category 3C lands, but so too do opportunities to create nature-sensitive urban communities. In order to balance the new for new urban lands, especially the need for additional industrial lands, with the need to provide for the protection and enhancement of Class III resources, as a general recommendation conflicting uses should be moderately limited in Category 3C lands. Moderately limiting conflicting use will permit some new development and redevelopment, but disturbance areas should be located to protect the resource and low impact development should be encouraged.

14. Analysis Category 3D: Future Urban Areas in Inner Impact Areas

Analysis Category 3D applies to those lands that came into the Urban Growth Boundary in 2002 which are inner impact areas. Expected land uses and land values vary, depending on the 2040 Design Type designation. The expectation is that these areas will develop at an urban intensity, but the relative lack of existing development also increases the viable options for future protection measures. Possibilities of conflict between future urbanization and the need to restrict activities in inner impact areas exist on Category 3D lands, but so too do opportunities to create nature-sensitive urban communities. Within the Tualatin Basin ESEE Study Area there are approximately 195 acres of land within the Category 3D classification.

Table 3-18
Analysis Category 3D: Future Urban (FU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of future urban land. • Increased development potential on remaining vacant lands. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and new housing units. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from the impacts to adjacent resources from the loss of Inner Impact Areas. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the impacts to adjacent resources from the loss of Inner Impact Areas. • Increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent resources. • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for impact area property owners due to Goal 5 requirements. • Impact area property owners are not disproportionately impacted by resource protection requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Potential loss or degradation of adjacent Goal 5 resources for future generations.

Table 3-18
Analysis Category 3D: Future Urban (FU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	
Environmental (Allow)	• Compact urban design enabled, which may reduce vehicle miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Potential creation of additional impervious surface area. • Loss of Inner Impact Areas could result in loss of native vegetation and stream shading, increased potential for erosion, and additional barriers to wildlife. • Increased potential for predation and habitat disturbance in adjacent Goal 5 resources from domestic pets. • Disturbance of adjacent habitat resulting in the movement or dispersal of wildlife. • Loss of Inner Impact Area would result in increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas and increased impacts from adjacent pesticide, herbicide and fertilizer use adjacent to Goal 5 resources. • Impacts to adjacent Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased due to impacts to adjacent Goal 5 resources. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Development potential for parcel partially realized, moderating the extent to which use is diverted to fewer suitable, higher cost sites. • To the extent that conflicting uses are allowed, could help to avoid creating cost impacts of scarcity.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc.

Table 3-18
Analysis Category 3D: Future Urban (FU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• To the extent that conflicting uses are allowed, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed, enhances potential for local economic development. • To the extent that conflicting uses are allowed, helps to ensure land for institutional needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	would be passed on to government, developers, and home buyers to the extent that conflicting uses are allowed and impacts to adjacent Goal 5 resources are limited. • The extent to which conflicting uses are eliminated may affect the availability of affordable housing.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing and employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing adjacent natural resources, depending on whether limits on uses successfully avoid impacts. • Reduced potential for impacts to adjacent Goal 5 resources from additional impervious surface, loss of native vegetation and stream shading, potential for erosion, additional barriers to wildlife. • Reduced impacts to adjacent Goal 5 habitat from domestic pets. • Reduced impacts to adjacent Goal 5 habitat resulting in the movement or dispersal of wildlife. • Reduced impacts to adjacent Goal 5 resources due to increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas, pesticide, herbicide and fertilizer use. • Reduced impacts to adjacent Goal 5 resources which could result in increased fish habitat disturbance and potential downstream water quality impacts.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent that development is allowed: • Potential creation of additional impervious surface area. • Potential loss of native vegetation and stream shading, increased potential for erosion, and additional barriers to wildlife. • Increased potential for predation and habitat disturbance in adjacent Goal 5 resources from domestic pets. • Disturbance of adjacent habitat resulting in the movement or dispersal of wildlife. • Potential increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas and increased impacts from adjacent pesticide, herbicide and fertilizer use adjacent to Goal 5 resources. • Potential Goal 5 resource impacts which could increase fish habitat disturbance and potential downstream water quality

Table 3-18
Analysis Category 3D: Future Urban (FU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• More property acquisition opportunities available.	impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from impacts to adjacent Goal 5 resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent Goal 5 resources. • No cost increases resulting from increased environmental impacts would be passed on to developers and home buyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from adjacent Goal 5 resources.	• Property owners do not realize full development potential of future urban land. • Loss of development capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no increase in local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and new housing units. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Housing opportunities and employment associated with land development impacted by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to adjacent Goal 5 resources. • Decreased risk from hazardous materials. • Avoids creation of additional impervious surface adjacent	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation.

Table 3-18
Analysis Category 3D: Future Urban (FU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	to Goal 5 resources. • Avoids impacts to native vegetation and stream shading. • Avoids potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • No impacts to adjacent Goal 5 habitat from domestic pets. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 3D: Lightly limit

Analysis Category 3D applies to those lands that came into the Urban Growth Boundary in 2002 which are inner impact areas. Possibilities of conflict between future urbanization and the need to restrict activities in inner impact areas exist on Category 3D lands, but so too do opportunities to create nature-sensitive urban communities. In inner impact areas the focus is on how conflicting uses may impact adjacent resources and possible restoration activities. Therefore, in order to meet the need for higher intensity urban lands while still providing some protection for adjacent resources, as a general recommendation conflicting uses should be lightly limited in Category 3D lands. In addition to considering the conflicting use category, it may also be appropriate to allow the program to vary the degree of limit relative to the classification of the adjacent resource (e.g., impact areas adjacent to Class I resources could provide more protection than those adjacent to Class III resources).

15. Analysis Category 3E: Future Urban Areas in Outer Impact Areas

Analysis Category 3E applies to those lands that came into the Urban Growth Boundary in 2002 which are outer impact areas. Expected land uses and land values vary, depending on the 2040 Design Type designation. The expectation is that these areas will develop at an urban intensity, but the relative lack of existing development also increases the viable options for future protection measures. Possibilities of conflict between future urbanization and the need to regulate activities in outer impact areas exist on Category 3E lands, but so too do opportunities to create nature-sensitive urban communities. Within the Tualatin Basin ESEE Study Area there are approximately 1,819 acres of land within the Category 3E classification.

Table 3-19
Analysis Category 3E: Future Urban (FU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Property owners realize full development potential of future urban land. • Increased development potential on remaining vacant lands. • Cost impacts resulting from loss of developable land may be avoided. • Future land improvements increase property values and thus increase the local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and new housing units. • Employment and income related to construction and development activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from the impacts to resources within the basin. • Impacted resources may lead to perceptions of degraded quality of life that discourage employers or residents from locating in area. • Increased municipal spending on flood and water quality management resulting from the impacts to resources within the basin. • Increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to resources within the basin. • Increased potential flood damage costs.
Social (Allow)	• Housing and employment opportunities unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No additional costs for property owners due to Goal 5 requirements. • 2040 densities and designs permitted. • Compact urban design unaffected by Goal 5 requirements. • Pedestrian connectivity unaffected by Goal 5 requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Potential loss or degradation of Goal 5 resources within the basin for future generations.
Environmental	• Compact urban design enabled, which may reduce vehicle	• Potential creation of additional impervious surface area.

Table 3-19
Analysis Category 3E: Future Urban (FU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
(Allow)	miles traveled (and associated pollutants) and minimize natural resources disturbed for urban development in study area overall. • Opportunity for development to result in mitigation activities including restoration, enhancement or creation of natural resource functions and values as required by existing Title 3 water quality regulations.	• Unregulated development of Outer Impact Areas could result in loss of vegetation and increased potential for erosion. • Unregulated development of Outer Impact Areas could result in increased introduction of invasive plant species from additional landscaped areas, increased impacts from adjacent pesticide, herbicide and fertilizer use within the basin, increased impacts from domestic pets. • Impacts to Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Positive impacts are possible due to efficient siting of new development. • Efficient siting may reduce energy cost due to transportation, solar access, and the provision of infrastructure services. • Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased due to impacts to Goal 5 resources within the basin. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• To the extent that conflicting uses are allowed without significant additional restrictions, could help to avoid creating cost impacts of scarcity and additional environmental regulation. • To the extent that conflicting uses are allowed without significant additional regulation, improvement increases property values, thus boosting local tax base. • To the extent that conflicting uses are allowed without significant additional regulation, enhances potential for local economic development. • To the extent that conflicting uses are allowed without significant additional regulation, helps to ensure land for institutional needs. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	• Moderately increased municipal service costs. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government, developers, businesses and consumers to the extent that conflicting uses are allowed and impacts to Goal 5 resources within the basin are limited. • The extent to which conflicting uses are regulated may affect housing affordability within the basin.

Table 3-19
Analysis Category 3E: Future Urban (FU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Housing and employment opportunities somewhat affected by Goal 5 requirements. • Compact urban design potentially somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing adjacent natural resources, depending on whether limits on uses successfully avoid impacts. • Reduced potential for impacts to adjacent Goal 5 resources from additional impervious surface, loss of native vegetation and stream shading, potential for erosion, additional barriers to wildlife. • Reduced impacts to adjacent Goal 5 habitat resulting in the movement or dispersal of wildlife. • Reduced impacts to adjacent Goal 5 resources due to increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas, pesticide, herbicide and fertilizer use. • Reduced impacts to adjacent Goal 5 resources which could result in increased fish habitat disturbance and potential downstream water quality impacts. • More property acquisition opportunities available. • Still opportunities for stewardship, with some additional regulations.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent to which development is allowed: • Potential creation of additional impervious surface area. • Potential loss of vegetation and increased potential for erosion. • Potential increased introduction of invasive plant species from additional landscaped areas, increased impacts from adjacent pesticide, herbicide and fertilizer use within the basin, increased impacts from domestic pets. • Potential Goal 5 resource impacts which could increase fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide compact development patterns with grid pattern streets.	• Longer travel times and higher energy usage may result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from impacts to adjacent Goal 5 resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring	• Property owners do not realize full development potential of higher intensity urban land. • Loss of development capacity. • Cost impacts resulting from loss of developable land. • Future land improvements are precluded and thus there is no

Table 3-19
Analysis Category 3E: Future Urban (FU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent Goal 5 resources. • No cost increases resulting from increased environmental impacts would be passed on to developers and home buyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from adjacent Goal 5 resources.	increase in local property tax base. • Economic development is facilitated by ensuring an adequate supply of commercial / industrial / mixed-use land for new jobs and housing units. • Employment and income related to construction and development activities negatively affected by a reduced land supply due to additional Goal 5 regulations. • Development diverted to fewer suitable parcels with higher costs. • Inhibits potential for local economic development. • Reduced supply of suitable land for long-term capital facilities needs.
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Housing opportunities and employment associated with land development impacted by Goal 5 requirements. • Compact urban design opportunities limited by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to Goal 5 resources within the basin. • Decreased risk from hazardous materials. • Avoidance of additional impervious surface within the basin. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use.	• Some lost opportunity for voluntary property owner stewardship. • Some lost ability to gain enhancement, restoration, or open space dedication through development mitigation. • Development restrictions within UGB may lead to UGB expansion or more dispersed development.

Table 3-19
Analysis Category 3E: Future Urban (FU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	• No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • No impacts to basin Goal 5 habitat from additional domestic pets. • More property acquisition opportunities available.	
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 3E: Allow

Analysis Category 3E applies to those lands that came into the Urban Growth Boundary in 2002 which are outer impact areas. Possibilities of conflict between future urbanization and the need to regulate activities in outer impact areas exist on Category 3E lands, but so too do opportunities to create nature-sensitive urban communities. In outer impact areas the focus is on the inter-connectedness of the natural system and how individual actions and conflicting uses may have an overall impact on water quality within the basin. Given the large amount of land within the outer impact area, the focus of future programs in the outer impact area could emphasize voluntary stewardship, water quality education and funding. Therefore, as a general recommendation conflicting uses should be allowed in Category 3E lands.

16. Analysis Category 4A: Non-Urban Areas with Class I Resource Values

Analysis Category 4A includes Class I resources that occur on lands primarily zoned for agricultural or forestry activities or rural residential. As noted in Chapter 2, the potential for urban development is low, but there are potential environmental impacts associated with agricultural practices, forestry and rural residential development. Given this, Category 4A lands represent an area of possible conflict between rural land uses and the need to protect Class I resources, which are the highest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 12,786 acres of land within the Category 4A classification.

Table 3-20
Analysis Category 4A: Non-Urban (NU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Agriculture and forest practices continue unaffected by additional Goal 5 requirements. • Property owners realize full use of non-urban land. • Potential for new non-urban development on vacant land. • Economic development is facilitated by ensuring adequate agricultural and forestry lands. • Employment and income related to agriculture and forestry activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class I resources. • Increased municipal spending on flood and water quality management resulting from the loss of Class I resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Agricultural and forestry way of life unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Class I resources for future generations.
Environmental (Allow)	• New transportation connections in rural area could result in potential reduction in vehicle miles traveled and reduced environmental impacts. • Limited potential for new additional impervious surface in non-urban areas.	• Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife.

Table 3-20
Analysis Category 4A: Non-Urban (NU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
		• Increased noise from agriculture and forest practices. • Increased soil compaction, erosion, waste infiltration/runoff impacts from livestock. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer infiltration/runoff from additional landscaped and cultivated areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Property values of adjacent landowners are not significantly affected depending upon the extent that conflicting uses are allowed. • To the extent that conflicting uses are allowed, enhances potential for local agriculture and forestry. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government and area residents to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may threaten long-term viability of the region's agriculture and forest economy.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid	• Partial loss of opportunity to provide voluntary stewardship by property owners.

Table 3-20
Analysis Category 4A: Non-Urban (NU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	impacts. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise. • Reduced potential for the introduction of invasive plant species from agricultural areas. • Reduced potential for impacts from livestock and pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	To the extent to which development or agricultural cultivation is allowed: • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise from agriculture and forest practices. • Increased soil compaction, erosion and waste infiltration/runoff impacts from livestock. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer infiltration/runoff from additional landscaped and cultivated areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide connectivity in the rural area.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class I resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels.	• Property owners may not realize full use potential of non-urban urban land. • Agriculture and forestry employment and income potentially negatively affected by a reduced land supply due to additional Goal 5 regulations.

Table 3-20
Analysis Category 4A: Non-Urban (NU) Areas with Class I Resource Values

	Positive Consequences	Negative Consequences
	• No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class I resources.	
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with agriculture and forestry may be reduced by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Category 1 resources. • Decreased risk from hazardous materials. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No introduction of invasive plant species from additional agricultural areas. • No increased impact from livestock and pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	• Some lost opportunity for voluntary property owner stewardship.
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 4A: Strictly limit

Analysis Category 4A includes Class I resources that occur on lands primarily zoned for agricultural or forestry activities or rural residential. While the potential for urban development is low, there are potential environmental impacts associated with agricultural practices, forestry and rural residential development. There are limits on the extent to which local Goal 5 programs can regulate forest and agricultural practices. However, in order to balance the importance of agriculture and forestry to our economy with the need to provide for the protection and enhancement of Class I resources, as a general recommendation those conflicting uses which can be regulated by local jurisdictions should be strictly limited in Category 4A lands. Strictly limiting conflicting use will permit very little new development, although public facilities may be allowed. Almost all existing vegetation and forest canopy should be maintained. Those minimum disturbance areas which are allowed should be oriented to protect the resource and low impact development practices should be strongly encouraged.

17. Analysis Category 4B: Non-Urban Areas with Class II Resource Values

Analysis Category 4B includes Class II resources that occur on lands zoned for agricultural or forestry activities or rural residential. As noted in Chapter 2, the potential for urban development is low, but there are potential environmental impacts associated with agricultural practices, forestry and rural residential development. Given this, Category 4B lands represent an area of possible conflict between rural land uses and the need to protect Class II resources, which are the second highest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 9,946 acres of land within the Category 4B classification.

Table 3-21
Analysis Category 4B: Non-Urban (NU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Agriculture and forest practices continue unaffected by additional Goal 5 requirements. • Property owners realize full use of non-urban land. • Potential for new non-urban development on vacant land. • Economic development is facilitated by ensuring adequate agricultural and forestry lands. • Employment and income related to agriculture and forestry activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class II resources. • Increased municipal spending on flood and water quality management resulting from the loss of Class II resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Agricultural and forestry way of life unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of valuable Class II resources for future generations.
Environmental (Allow)	• New transportation connections in rural area could result in potential reduction in vehicle miles traveled and reduced environmental impacts. • Limited potential for new additional impervious surface in non-urban areas.	• Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife.

Table 3-21
Analysis Category 4B: Non-Urban (NU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
		• Increased noise from agriculture and forest practices. • Increased soil compaction, erosion, and waste infiltration/runoff impacts from livestock. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer infiltration/runoff from additional landscaped and cultivated areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Property values of adjacent landowners are not significantly affected depending upon the extent that conflicting uses are allowed. • To the extent that conflicting uses are allowed, enhances potential for local agriculture and forestry. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government and area residents to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may threaten long-term viability of the region's agriculture and forest economy.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources depending on whether limits on uses successfully avoid	• Partial loss of opportunity to provide voluntary stewardship by property owners.

Table 3-21
Analysis Category 4B: Non-Urban (NU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	impacts. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise. • Reduced potential for the introduction of invasive plant species from agricultural areas. • Reduced potential for impacts from livestock and pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	To the extent to which development or agricultural cultivation is allowed: • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise from agriculture and forest practices. • Increased soil compaction, erosion, and waste infiltration/runoff impacts from livestock. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer infiltration/runoff from additional landscaped and cultivated areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide connectivity in the rural area.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class II resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels.	• Property owners do not realize full use potential of non-urban urban land. • Potential productivity losses on agriculture and forestry lands. • Agriculture and forestry employment and income negatively affected by a reduced land supply due to additional Goal 5 regulations.

Table 3-21
Analysis Category 4B: Non-Urban (NU) Areas with Class II Resource Values

	Positive Consequences	Negative Consequences
	• No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class II resources.	
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with agriculture and forestry may be reduced by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class II resources. • Decreased risk from hazardous materials. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No introduction of invasive plant species from additional agricultural areas. • No increased impact from livestock and pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	• Some lost opportunity for voluntary property owner stewardship.
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 4B: Moderately limit

Analysis Category 4B includes Class II resources that occur on lands zoned for agricultural or forestry activities or rural residential. While the potential for urban development is low, there are potential environmental impacts associated with agricultural practices, forestry and rural residential development. There are limits on the extent to which local Goal 5 programs can regulate forest and agricultural practices. However, in order to balance the importance of agriculture and forestry to our economy with the need to provide for the protection and enhancement of Class II resources, as a general recommendation those conflicting uses which can be regulated by local jurisdictions should be moderately limited in Category 4B lands. Moderately limiting conflicting use should permit some new development and redevelopment, and disturbance areas should be located to protect the resource. Low impact development practices should be encouraged.

18. Analysis Category 4C: Non-Urban Areas with Class III Resource Values

Analysis Category 4C includes Class III resources that occur on lands zoned for agricultural or forestry activities or rural residential. As noted in Chapter 2, the potential for urban development is low, but there are potential environmental impacts associated with agricultural practices, forestry and rural residential development. Given this, Category 4C lands represent an area of possible conflict between rural land uses and the need to protect Class III resources, which are the lowest quality resources. Within the Tualatin Basin ESEE Study Area there are approximately 3,437 acres of land within the Category 4C classification.

Table 3-22
Analysis Category 4C: Non-Urban (NU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Agriculture and forest practices continue unaffected by additional Goal 5 requirements. • Property owners realize full use of non-urban land. • Potential for new non-urban development on vacant land. • Economic development is facilitated by ensuring adequate agricultural and forestry lands. • Employment and income related to agriculture and forestry activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from loss of Class III resources. • Increased municipal spending on flood and water quality management resulting from the loss of Class III resources. • Increased cost of municipal compliance with federal regulations (e.g., ESA). • Cost increases would likely be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Agricultural and forestry way of life unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for resource property owners due to Goal 5 requirements. • Resource property owners are not disproportionately impacted by resource protection requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Loss of Class III resources for future generations.
Environmental (Allow)	• New transportation connections in rural area could result in potential reduction in vehicle miles traveled and reduced environmental impacts. • Limited potential for new additional impervious surface in non-urban areas.	• Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife.

Table 3-22
Analysis Category 4C: Non-Urban (NU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
		• Increased noise from agriculture and forest practices. • Increased soil compaction, erosion and waste infiltration/runoff impacts from livestock. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer infiltration/runoff from additional landscaped and cultivated areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Property values of adjacent landowners are not significantly affected depending upon the extent that conflicting uses are allowed. • To the extent that conflicting uses are allowed, enhances potential for local agriculture and forestry. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government and area residents to the extent that conflicting uses are allowed. • The extent to which conflicting uses are eliminated, may threaten long-term viability of the region's agriculture and forest economy.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing natural resources, depending on whether limits on uses successfully avoid	• Partial loss of opportunity to provide voluntary stewardship by property owners.

Table 3-22
Analysis Category 4C: Non-Urban (NU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	impacts. • Reduced loss of native vegetation and stream shading. • Reduced potential for erosion. • Fewer additional barriers to wildlife. • Reduced loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Reduced impacts due to increased noise. • Reduced potential for the introduction of invasive plant species from agricultural areas. • Reduced potential for impacts from livestock and pesticide, herbicide and fertilizer use. • Reduced fish habitat disturbance. • Reduced potential downstream water quality impacts. • More property acquisition opportunities available.	To the extent to which development or agricultural cultivation is allowed: • Loss of native vegetation and stream shading. • Increased potential for erosion. • Additional barriers to wildlife. • Loss of habitat and habitat fragmentation resulting in the displacement of wildlife. • Increased noise from agriculture and forest practices. • Increased soil compaction, erosion and waste infiltration/runoff impacts from livestock. • Introduction of invasive plant species and increased pesticide, herbicide and fertilizer infiltration/runoff from additional landscaped and cultivated areas. • Fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide connectivity in the rural area.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from the loss of Class III resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA). • No cost increases resulting from increased environmental impacts would be passed on to developers, businesses and consumers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels.	• Property owners do not realize full use potential of non-urban urban land. • Potential productivity losses on agriculture and forestry lands. • Agriculture and forestry employment and income negatively affected by a reduced land supply due to additional Goal 5 regulations.

Table 3-22
Analysis Category 4C: Non-Urban (NU) Areas with Class III Resource Values

	Positive Consequences	Negative Consequences
	• No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat (e.g. fisheries) resulting from loss of water and Class III resources.	
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with agriculture and forestry may be reduced by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to high quality Class III resources. • Decreased risk from hazardous materials. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No introduction of invasive plant species from additional agricultural areas. • No increased impact from livestock and pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	• Some lost opportunity for voluntary property owner stewardship.
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 4C: Moderately limit

Analysis Category 4C includes Class III resources that occur on lands zoned for agricultural or forestry activities or rural residential. While the potential for urban development is low, there are potential environmental impacts associated with agricultural practices, forestry and rural residential development. There are limits on the extent to which local Goal 5 programs can regulate forest and agricultural practices. However, in order to balance the importance of agriculture and forestry to our economy with the need to provide for the protection and enhancement of Class III resources, as a general recommendation those conflicting uses which can be regulated by local jurisdictions should be moderately limited in Category 4C lands. Moderately limiting conflicting use will permit some new development and redevelopment, but disturbance areas should be designed to protect the resource and low impact development practices should be encouraged.

19. Analysis Category 4D: Non- Urban Areas in Inner Impact Areas

Analysis Category 4D includes inner impact areas that occur on lands zoned for agricultural or forestry activities or rural residential. As noted in Chapter 2, the potential for urban development is low in these areas, but there are potential environmental impacts associated with agricultural practices, forest practices and rural residential development. Given this, Category 4D lands represent an area of possible conflict between rural land uses and the need to regulate activities on inner impact areas in order to protect adjacent resources. Within the Tualatin Basin ESEE Study Area there are approximately 1,904 acres of land within the Category 4D classification.

Table 3-23
Analysis Category 4D: Non-Urban (NU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Agriculture and forest practices continue unaffected by additional Goal 5 requirements. • Property owners realize full use of non-urban land. • Potential for new non-urban development on vacant land. • Economic development is facilitated by ensuring adequate agricultural and forestry lands. • Employment and income related to agriculture and forestry activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from the impacts to adjacent resources from the loss of Inner Impact Areas. • Increased municipal spending on flood and water quality management resulting from the impacts to adjacent resources from the loss of Inner Impact Areas. • Increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent resources. • Cost increases would likely be passed on to the government, land owners and area residents. • Property values of adjacent landowners could be negatively affected due to loss of aesthetic and open space benefits. • Increased potential flood damage costs.
Social (Allow)	• Agricultural and forestry way of life unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for impact area property owners due to Goal 5 requirements. • Impact area property owners are not disproportionately impacted by resource protection requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Potential loss or degradation of adjacent Goal 5 resources for future generations.
Environmental (Allow)	• New transportation connections in rural area could result in potential reduction in vehicle miles traveled and reduced environmental impacts. • Limited potential for new additional impervious surface in	• Loss of Inner Impact Areas could result in loss of native vegetation and stream shading, increased potential for erosion, and additional barriers to wildlife. • Increased potential for water quality impacts and habitat

Table 3-23
Analysis Category 4D: Non-Urban (NU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	non-urban areas.	disturbance in adjacent Goal 5 resources from livestock. • Disturbance of adjacent habitat resulting in the movement or dispersal of wildlife. • Loss of Inner Impact Area would result in increased noise, the introduction of invasive plant species from agricultural areas and increased impacts from adjacent pesticide, herbicide and fertilizer use adjacent to Goal 5 resources. • Impacts to adjacent Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased due to impacts to adjacent Goal 5 resources. • Increased energy consumption due to loss of vegetation and microclimate effects. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Property values of adjacent landowners are not significantly affected depending upon the extent that conflicting uses are allowed. • To the extent that conflicting uses are allowed, enhances potential for local agriculture and forestry. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government and area residents to the extent that conflicting uses are allowed and impacts to adjacent Goal 5 resources are limited. • The extent to which conflicting uses are eliminated, may threaten long-term viability of the region's agriculture and forest economy.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits.	• Employment opportunities somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.

Table 3-23
Analysis Category 4D: Non-Urban (NU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	• Reduced potential change to area character.	
Environmental (Limit)	• Partial to no impacts to existing adjacent natural resources, depending on whether limits on uses successfully avoid impacts. • Reduced potential for impacts to adjacent Goal 5 resources from additional impervious surface, loss of native vegetation and stream shading, potential for erosion, additional barriers to wildlife. • Reduced impacts to adjacent Goal 5 habitat from livestock. • Reduced impacts to adjacent Goal 5 habitat resulting in the movement or dispersal of wildlife. • Reduced impacts to adjacent Goal 5 resources due to increased noise, light and glare, the introduction of invasive plant species from additional landscaped areas, pesticide, herbicide and fertilizer use. • Reduced impacts to adjacent Goal 5 resources which could result in increased fish habitat disturbance and potential downstream water quality impacts. • More property acquisition opportunities available.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent which development or agricultural cultivation is allowed: • Loss of Inner Impact Areas could result in loss of native vegetation and stream shading, increased potential for erosion, and additional barriers to wildlife. • Increased potential for water quality impacts and habitat disturbance in adjacent Goal 5 resources from livestock. • Disturbance of adjacent habitat resulting in the movement or dispersal of wildlife. • Loss of Inner Impact Area would result in increased noise, the introduction of invasive plant species from agricultural areas and increased impacts from adjacent pesticide, herbicide and fertilizer use adjacent to Goal 5 resources. • Impacts to adjacent Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide connectivity in the rural area.	• Increased energy costs due to increased travel may be avoided if uses conditioned to avoid impacts.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from impacts to adjacent Goal 5 resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent Goal 5 resources. • No cost increases resulting from increased environmental	• Property owners do not realize full use potential of non-urban urban land. • Potential productivity losses on agriculture and forestry lands. • Agriculture and forestry employment and income negatively affected by a reduced land supply due to additional Goal 5 regulations.

Table 3-23
Analysis Category 4D: Non-Urban (NU) Areas in Inner Impact Areas

	Positive Consequences	Negative Consequences
	impacts would be passed on to developers and home buyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. • No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from adjacent Goal 5 resources.	
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with agriculture and forestry may be reduced by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to adjacent Goal 5 resources. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No impacts from livestock or introduction of invasive plant species from additional agricultural areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • More property acquisition opportunities available.	• Some lost opportunity for voluntary property owner stewardship. •
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 4D: Lightly limit

Analysis Category 4D includes inner impact areas that occur on lands zoned for agricultural or forestry activities or rural residential. In inner impact areas the focus is on how conflicting uses may impact adjacent resources and possible restoration activities. While the potential for urban development is low, there are potential environmental impacts associated with agricultural practices, forestry and rural residential development. There are limits on the extent to which local Goal 5 programs can regulate forest and agricultural practices. However, in order to balance the importance of agriculture and forestry to our economy with the need to provide for the protection and enhancement of adjacent resources, as a general recommendation those conflicting uses which can be regulated by local jurisdictions should be lightly limited in Category 4D lands. In addition to considering the conflicting use category, it may also be appropriate to allow the program to vary the degree of limit relative to the classification of the adjacent resource (e.g., impact areas adjacent to Class I resources could provide more protection than those adjacent to Class III resources).

20. Analysis Category 4E: Non-Urban Areas in Outer Impact Areas

Analysis Category 4E includes outer impact areas that occur on lands zoned for agricultural or forestry activities or rural residential. As noted in Chapter 2, the potential for urban development is low, but there are potential environmental impacts associated with agricultural practices. Given this, Category 4E lands represent an area of possible conflict between rural land uses and the need to regulate activities in outer impact areas in order to protect resources within the basin. Within the Tualatin Basin ESEE Study Area there are approximately 26,063 acres of land within the Category 4E classification.

Table 3-24
Analysis Category 4E: Non-Urban (NU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	ALLOW	
Economic (Allow)	• Agriculture and forest practices continue unaffected by additional Goal 5 requirements. • Property owners realize full use of non-urban land. • Potential for new non-urban development on vacant land. • Economic development is facilitated by ensuring adequate agricultural and forestry lands. • Employment and income related to agriculture and forestry activities would not be negatively affected by a reduced land supply due to additional Goal 5 regulations.	• Negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from the impacts to resources within the basin. • Increased municipal spending on flood and water quality management resulting from the impacts to resources within the basin. • Increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to resources within the basin. • Increased potential flood damage costs.
Social (Allow)	• Agricultural and forestry way of life unaffected by additional Goal 5 requirements. • No change in property rights due to Goal 5 requirements. • No takings concerns for impact area property owners due to Goal 5 requirements. • Impact area property owners are not disproportionately impacted by resource protection requirements.	• Increased potential for impact to historic and cultural values. • Loss of passive recreational and educational opportunities. • Loss of scenic and aesthetic benefits. • Degraded environmental quality may impact human health. • Potential loss or degradation of adjacent Goal 5 resources for future generations.
Environmental (Allow)	• New transportation connections in rural area could result in potential reduction in vehicle miles traveled and reduced environmental impacts. • Limited potential for new additional impervious surface in non-urban areas.	• Unregulated use in Outer Impact Areas could result in loss of vegetation and increased potential for erosion. • Unregulated use in Outer Impact Areas could result in increased introduction of invasive plant species from additional agricultural areas, increased impacts from adjacent pesticide, herbicide and fertilizer use within the basin, increased impacts from livestock.

Table 3-24
Analysis Category 4E: Non-Urban (NU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
		• Impacts to Goal 5 resources could result in increased fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Allow)	• Transportation connectivity opportunities are improved which reduces out-of-direction travel.	• Transportation impacts due to flooding, landslide, etc. are increased due to impacts to Goal 5 resources within the basin. • Increased energy required to treat water and maintain water quality and stormwater treatment facilities.
	LIMIT (Extent of impact depends on program)	
Economic (Limit)	• Property values of adjacent landowners are not significantly affected depending upon the extent that conflicting uses are allowed. • To the extent that conflicting uses are allowed, enhances potential for local agriculture and forestry. • To the extent that conflicting uses are regulated, can moderate potential flood damage costs.	• Moderately increased municipal service costs. • Property values of adjacent landowners could be negatively affected depending upon the extent that conflicting uses are allowed. • Environmental costs due to water quality impacts, flooding, etc. would be passed on to government and area residents to the extent that conflicting uses are allowed and impacts to Goal 5 resources within the basin are limited. • The extent to which conflicting uses are eliminated, may threaten long-term viability of the region's agriculture and forest economy.
Social (Limit)	• Reduced potential impact to historic and cultural values. • Reduced potential loss of passive recreational and educational opportunities. • Reduced potential loss of scenic benefits. • Reduced potential change to area character.	• Employment opportunities somewhat affected by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Limit)	• Partial to no impacts to existing adjacent natural resources, depending on whether limits on uses successfully avoid impacts. • Reduced potential for impacts to adjacent Goal 5 resources from additional impervious surface, loss of native vegetation and stream shading, potential for erosion, additional barriers to wildlife. • Reduced impacts to adjacent Goal 5 habitat from livestock.	• Partial loss of opportunity to provide voluntary stewardship by property owners. To the extent which development or agricultural cultivation is allowed: • Potential loss of vegetation and increased potential for erosion. • Potential increased introduction of invasive plant species from additional agricultural areas, increased impacts from adjacent

Table 3-24
Analysis Category 4E: Non-Urban (NU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
	• Reduced impacts to adjacent Goal 5 habitat resulting in the movement or dispersal of wildlife. • Reduced impacts to adjacent Goal 5 resources due to increased noise, the introduction of invasive plant species from additional agricultural areas, pesticide, herbicide and fertilizer use. • Reduced impacts to adjacent Goal 5 resources which could result in increased fish habitat disturbance and potential downstream water quality impacts. • More property acquisition opportunities available. • Still opportunities for stewardship, with some additional regulations.	pesticide, herbicide and fertilizer use within the basin, increased impacts from livestock. • Potential Goal 5 resource impact which could increase fish habitat disturbance and potential downstream water quality impacts. • Less opportunity for acquisition of resource sites.
Energy (Limit)	• Increased opportunities to provide connectivity in the rural area.	• Longer travel times and higher energy usage may result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.
	PROHIBIT	
Economic (Prohibit)	• No increased municipal spending on flood and water quality management resulting from impacts to adjacent Goal 5 resources. • Additional environmental impact costs would be avoided. • Decreased potential flood damage costs to neighboring property owners. • No increased cost of municipal compliance with federal regulations (e.g., ESA) resulting from impacts to adjacent Goal 5 resources. • No cost increases resulting from increased environmental impacts would be passed on to developers and homebuyers. • Property values of adjacent landowners could be positively affected or development premium created on adjacent parcels. No or extremely low negative impact on employment and income that depend on quality of riparian and wildlife habitat resulting from adjacent Goal 5 resources.	• Property owners do not realize full use potential of non-urban urban land. • Potential productivity losses on agriculture and forestry lands. • Agriculture and forestry employment and income negatively affected by a reduced land supply due to additional Goal 5 regulations.

Table 3-24
Analysis Category 4E: Non-Urban (NU) Areas in Outer Impact Areas

	Positive Consequences	Negative Consequences
Social (Prohibit)	• No or extremely low potential impact to historic and cultural values. • No or extremely low potential loss of passive recreational and educational opportunities. • No or extremely low potential loss of scenic benefits. • No potential change to neighborhood character.	• Employment opportunities, especially those associated with agriculture and forestry may be reduced by Goal 5 requirements. • Resource property owners may be disproportionately impacted by resource protection requirements.
Environmental (Prohibit)	• No or extremely low potential for additional impacts to Goal 5 resources within the basin. • Decreased risk from hazardous materials. • Avoidance of additional impervious surface within the basin. • Avoided impacts to native vegetation and stream shading. • Avoided potential for erosion. • No increase in barriers to wildlife. • No impact on movement or dispersal of wildlife. • No resulting increase in noise. • No resulting increase in light and glare. • No introduction of invasive plant species from additional landscaped areas. • No increased pesticide, herbicide and fertilizer use. • No additional fish habitat disturbance. • Avoided potential downstream water quality impacts. • No impacts from livestock or introduction of invasive plant species from additional agricultural areas. • More property acquisition opportunities available.	• Some lost opportunity for voluntary property owner stewardship. • Development restrictions within UGB may lead to UGB expansion or more dispersed development.
Energy (Prohibit)	• Helps maintain microclimate effects that cool and/or shelter uses.	• Longer travel times and higher energy usage will result if transportation facilities and utilities are routed out-of-direction in order to avoid resource.

Recommendation for Analysis Category 4E: Allow

Analysis Category 4E includes outer impact areas that occur on lands zoned for agricultural or forestry activities or rural residential. The potential for urban development is low, but there are potential environmental impacts associated with agricultural practices. In outer impact areas the focus is on the inter-connectedness of the natural system and how individual actions and conflicting uses may have an overall impact on water quality within the basin. Given the large amount of land within the outer impact area, the focus of future programs in the outer impact area could emphasize voluntary stewardship, water quality education and funding. Therefore, as a general recommendation, conflicting uses should be allowed in Category 1E lands.

C. General Conclusion and Map

The following table lists the recommendation by analysis category.

Table 3-25
Summary of General ESEE Recommendations

Analysis Category	Description	Recommendation (Allow/Limit/Prohibit)
1A	High Intensity Urban Areas with Class I Resource Values	Moderately Limit
1B	High Intensity Urban Areas with Class II Resource Values	Lightly limit
1C	High Intensity Urban Areas with Class III Resource Values	Lightly limit
1D	High Intensity Urban Areas in Inner Impact Areas	Lightly limit
1E	High Intensity Urban Areas in Outer Impact Areas	Allow
2A	Other Urban Areas with Class I Resource Values	Strictly limit
2B	Other Urban Areas with Class II Resource Values	Moderately limit
2C	Other Urban Areas with Class III Resource Values	Lightly limit
2D	Other Urban Areas in Inner Impact Areas	Lightly limit
2E	Other Urban Areas in Outer Impact Areas	Allow
3A	Future Urban Areas with Class I Resource Values	Strictly limit
3B	Future Urban Areas with Class II Resource Values	Strictly limit
3C	Future Urban Areas with Class III Resource Values	Moderately limit
3D	Future Urban Areas in Inner Impact Areas	Lightly limit
3E	Future Urban Areas in Outer Impact Areas	Allow
4A	Non-Urban Areas with Class I Resource Values	Strictly limit
4B	Non-Urban Areas with Class II Resource Values	Moderately limit
4C	Non-Urban Areas with Class III Resource Values	Moderately limit
4D	Non-Urban Areas in Inner Impact Areas	Lightly limit
4E	Non-Urban Areas in Outer Impact Areas	Allow

Table 3-26
Summary of General ESEE Recommendations
Cross-Tabulation of Conflicting Use and Environmental Categories

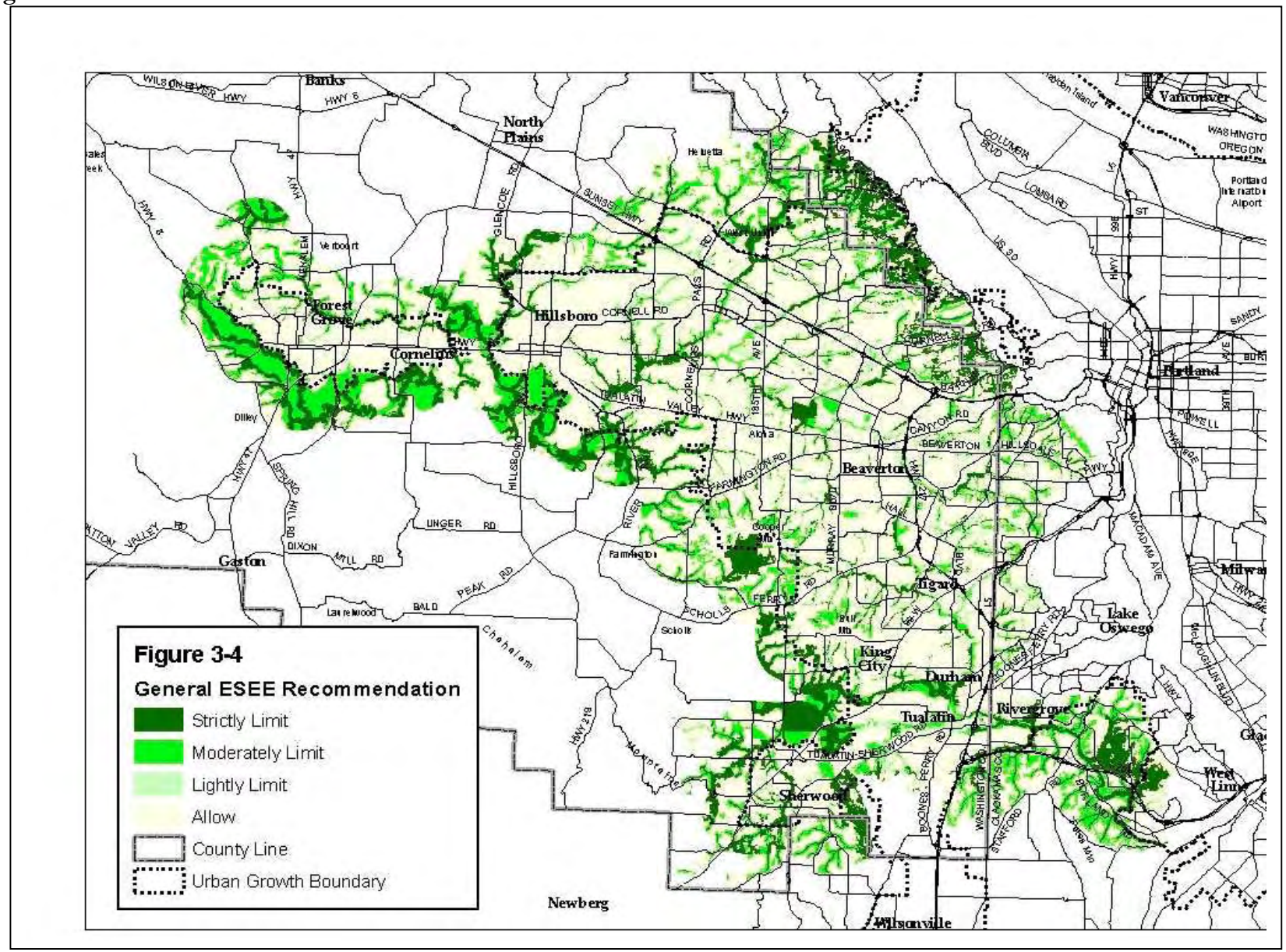
Environmental Category		Conflicting Use Category			
		1	**2**	**3**	**4**
		High Intensity Urban	Other Urban	Future Urban	Non-Urban
A	Class I resource	1A	2A	3A	4A
B	Class II resource	1B	2B	3B	4B
C	Class III resource	1C	2C	3C	4C
D	Inner Impact Area	1D	2D	3D	4D
E	Outer Impact Area	1E	2E	3E	4E

Legend

Prohibit	
Strictly Limit	
Moderately Limit	
Lightly Limit	
Allow	
Not Addressed	

Figure 3-4 below shows the basin-wide general ESEE recommendation.

Figure 3-4 General ESEE Recommendation



CHAPTER 4 SITE-SPECIFIC ECONOMIC, SOCIAL, ENVIRONMENTAL AND ENERGY (ESEE) ANALYSES

A. Purpose

This chapter of the Tualatin Basin ESEE report will provide a review of ESEE consequences of "Allow, Limit or Prohibit" decisions by geographic resource site and related impact area. As noted previously, the site-specific analyses will build on the general ESEE analysis in Chapter 3. For each of the sixty-nine sites, the consequences are assumed to be the same as described in the general ESEE analysis (Chapter 3) unless, based on the Adjustment Criteria described below, site-specific conditions require a different conclusion. The local streamshed analyses provide a more site-specific assessment of the various watershed components of the basin. The purpose of the local analyses is to determine whether adjustments to the basin-wide (General) ALP recommendation are warranted and to document and provide an explanation for these adjustments.

B. Adjustment Criteria

In preparation for the March 29, 2004 public hearing, the TBSC conducted preliminary site-level ESEE analyses for all of the inventoried streamsheds and, as a result, recommended adjustments to the General ALP program recommendation. The underlying basis for these recommendations is outlined below:

1. Ability to Revisit: At this stage of the analysis, many tentative suggestions regarding appropriate ALP program recommendations have been made without a full understanding of what the program outcome will be. Final decisions regarding program recommendations will be better-informed as the TBSC progresses with the program work and gains a clearer understanding of how programs will be applied throughout the Basin. The group therefore reserves the right to re-visit the ESEE analysis work and make adjustments to the ALP program recommendation as necessary.

2. Map Corrections: The local site analysis work has revealed a number of areas where Metro's Goal 5 inventory does not accurately reflect the resource in the field. Several of the adjustments to the General ALP map discussed by the TBSC have involved attempts to rectify inventory inaccuracies through an adjusted program recommendation. Through discussions with Metro staff, the TBSC has concluded the more appropriate method for addressing mapping inconsistencies is via Metro's Goal 5 Inventory map correction process. The Basin therefore will pursue a map corrections process with Metro. These situations will be considered "map corrections" rather than ALP adjustments.

3. Adjustments: Site specific adjustments to the General ALP program recommendation will be reserved for truly idiosyncratic or anomalous situations. The TBSC will first attempt to resolve all other concerns with program solutions before revisiting the adjustment criteria.

4. Limit Decision: As the TBSC considers adjustments to the General ALP program recommendation, all areas accounted for in Metro's Goal 5 Inventory will maintain a minimum level of protection under the Basin program. Therefore, with the exception of the map corrections mentioned above, there will be no adjustments below the "Lightly Limit" level

pending a more definitive program outcome. Also, as mentioned above, the group may revisit these adjustments at a later date.

5. Program Components: Metro's Pre-Program Concepts categorize programs into two groups, regulatory (or required) and non-regulatory (or volunteer). The TBSC has had preliminary discussions about regulatory program concepts and finds that it can be approached as three components, namely regulation, revenue and design. The regulatory component can be characterized as traditional land use controls, such as required buffer widths and the like. The revenue component will involve a broad consideration of revenue tools that would be used toward mitigation or restoration projects elsewhere in the watershed, in order to off-set development impacts. The design component may, for example, encourage the implementation of "green" design that strives to minimize new impervious surface area. It is likely that the program work will involve finding a balance for incorporating a combination of all three components.

C. Site-Specific ESEE Methodology

For each site the following information will be provided:

Site Characteristics and Features: Including a general description of the streamshed and its location, regional zoning, existing land uses and natural features. Each local streamshed is a sub-watershed of the Regional Sites or hydrologic unit codes (HUCs) identified in Metro's background work (see **Figure 4a** Metro Regional Sites). The Regional Sites also form the basis for the Tualatin Basin Existing Environmental Health Report (EEHR).

Site-Specific Economic Factors and Consequences: This includes information such as future expansion potential of major employers, the future development of 2040 centers affecting the site, etc. For example, a site with a high degree of employment importance may warrant a greater allowance of conflicting uses than that recommended in the general recommendation.

Site-Specific Social Factors and Consequences: This includes information such as any special use of the resource for educational or recreational purposes. For example, a site with a high degree of public education benefit may warrant a greater degree of protection than that recommended in the general ESEE Analysis and recommendation.

Site-Specific Environmental Factors and Consequences: This could include information about unique environmental features of the site such as the presence of endangered species and/or rare habitats. CWS RSAT database and the Tualatin Basin Baseline Environmental Health Report are two sources of information available for refining Metro's Inventory information. For example, a site with a high degree of environmental importance may warrant a greater degree of protection than that recommended in the general ESEE Analysis and recommendation.

Site-Specific Energy Factors and Consequences: This includes information such as future street connections and utility extensions. For example, a site with a high degree of impact on the street system may warrant a greater allowance of conflicting transportation uses than that recommended in the general ESEE Analysis and recommendation.

Site-Specific ESEE Recommendation: This section balances the site-specific factors and consequences and provides a recommendation. The site-specific recommendation, where different, supersedes the general ESEE Analysis and recommendation.

Sources of information include existing documentation such as:

- Clean Water Services Watersheds 2000 (Healthy Streams Plan) GIS/RSAT database;
- Tualatin Basin Baseline Environmental Health Report;
- Local Government Goal 5 Inventories and ESEE Studies;
- Local comprehensive plans and maps;
- Refinement plans;
- Urban renewal area plans;
- Transportation plans;
- Public facility plans;
- Vision plans;
- Regional Greenspaces plan;
- Local economic analysis; and
- Metro ESEE Analysis.

D. Site-Specific Analyses for Local Sites (Streamsheds)

Table 4-1 below lists the sixty-nine local sites in the Basin together with the Regional Site number(s) they are located within. **Figure 4b** identifies site locations in the basin, keyed to the corresponding streamshed numbers identified below. Following the methodology outlined in section C above, an analysis and final ALP recommendation are provided in the following sections 4-1 through 4-69 for each of the local streamsheds. Note that in several cases the analysis area for the subject streamshed is "clipped" to the limit of the Metro inventory, which generally extends one mile beyond Metro's jurisdictional boundary.

Table 4-1
List of Local Sites (Streamsheds)

Local Site (Streamshed) Number	Local Site (Streamshed) Name	Corresponding Regional Site Number(s)
1	Abbey Creek	7
2	Ash Creek	12
3	Ash Creek North Fork	12
4	Ash Creek South Fork	12
5	Ball Creek	14
6	Bannister Creek	8
7	Beaverton Creek	8
8	Bethany Creek	7
9	Bronson Creek	8
10	Butternut Creek	10
11	Carpenter Creek	5
12	Cedar Creek	15

13	Cedar Mill Creek	8
14	Chicken Creek	15
15	Council Creek	5
16	Council Creek South Tributary	5
17	Council Creek West Tributary	5
18	Cross Creek	10
19	Dairy Creek	5, 6
20	Dairy Creek WF	5
21	Davis Creek	9
22	Dawson Creek	9
23	Derry Dell Creek	14
24	Dilley Creek	5
25	Erickson Creek / Beaverton Creek South Fork	8
26	Fanno Creek	12
27	Fanno Creek (Beaverton)	8, 12
28	Fanno Creek (Tigard)	12, 14
29	Fern Hill Creek	5
30	Gales Creek	5
31	Gales Creek North Tributary	5
32	Glencoe Swale	6
33	Golf Creek	8
34	Gordon Creek	10
35	Hall Creek	8
36	Hall Creek NF	8
37	Heaton Creek	15
38	Hedges Creek	11
39	Hiteon Creek	12
40	Holcomb Creek	10, 7
41	Johnson Creek North	8
42	Johnson Creek South	8
43	Krueger Creek	13
44	Lindow Creek / Jackson Creek	10
45	McKay Creek	6
46	Nyberg Slough	11
47	Pendleton Creek	12
48	Red Rock Creek	14
49	Reedville Creek	9
50	Rock Creek North (Multnomah Co.)	7
51	Rock Creek North (Washington Co.)	7, 9
52	Rock Creek South (Washington Co.)	15
53	Saum Creek	11
54	Seth Creek	7
55	Storey Creek	6
56	Summer Creek (Beaverton)	13
57	Summer Creek (Tigard)	13
58	Sylvan Creek	12
59	Thatcher Creek	5

60	Tualatin River	10, 11
61	Tualatin River (Central)	5, 6, 9, 10
62	Tualatin River (East)	11, 14, 15
63	Tualatin River (West)	5
64	Turner Creek	9
65	Vermont Creek	12
66	Waible Gulch	6
67	Willow Creek	8
68	Willow Creek South Fork	8
69	Woods Creek	12

1

Figure 4a: Metro Regional Sites

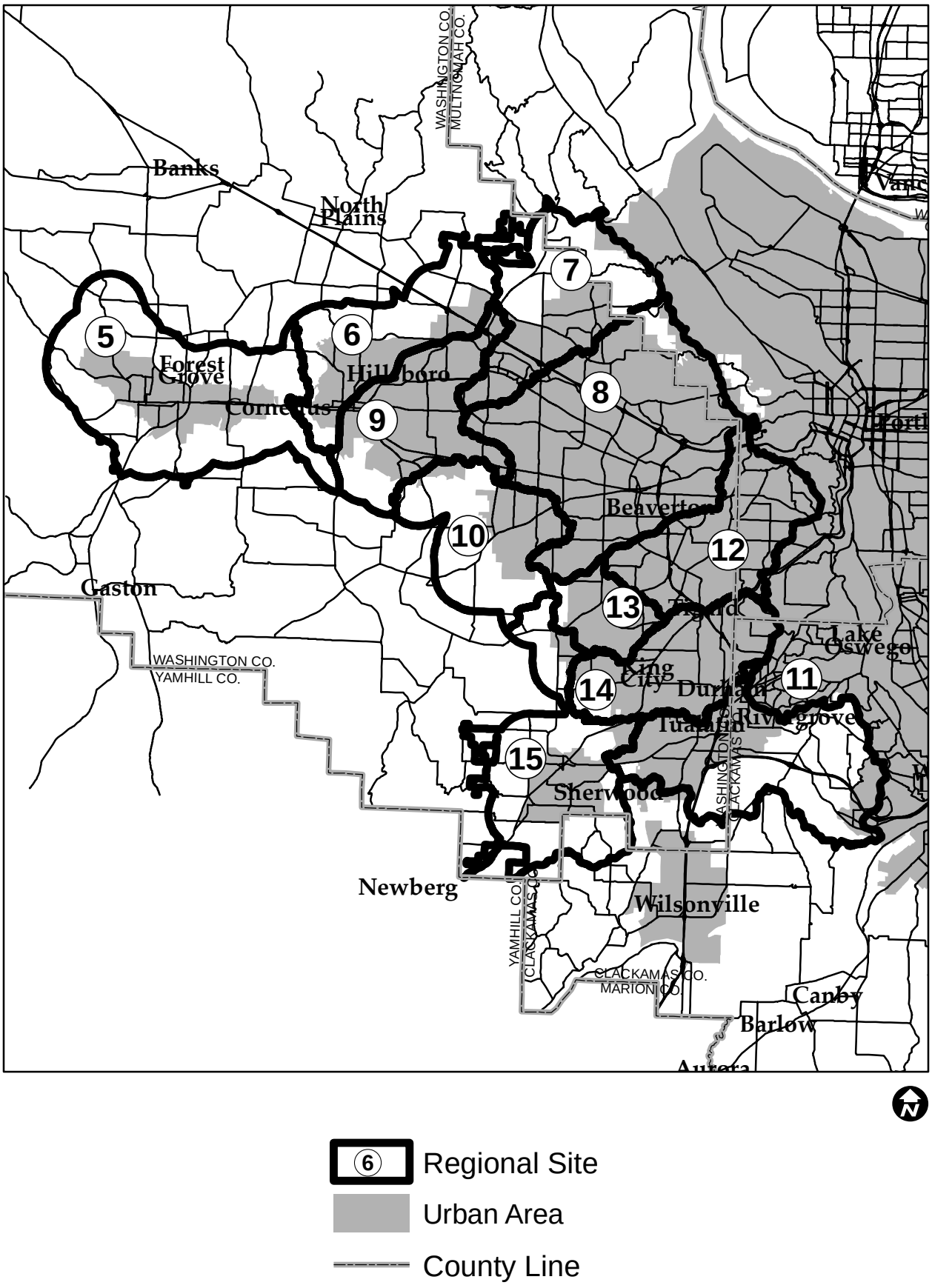
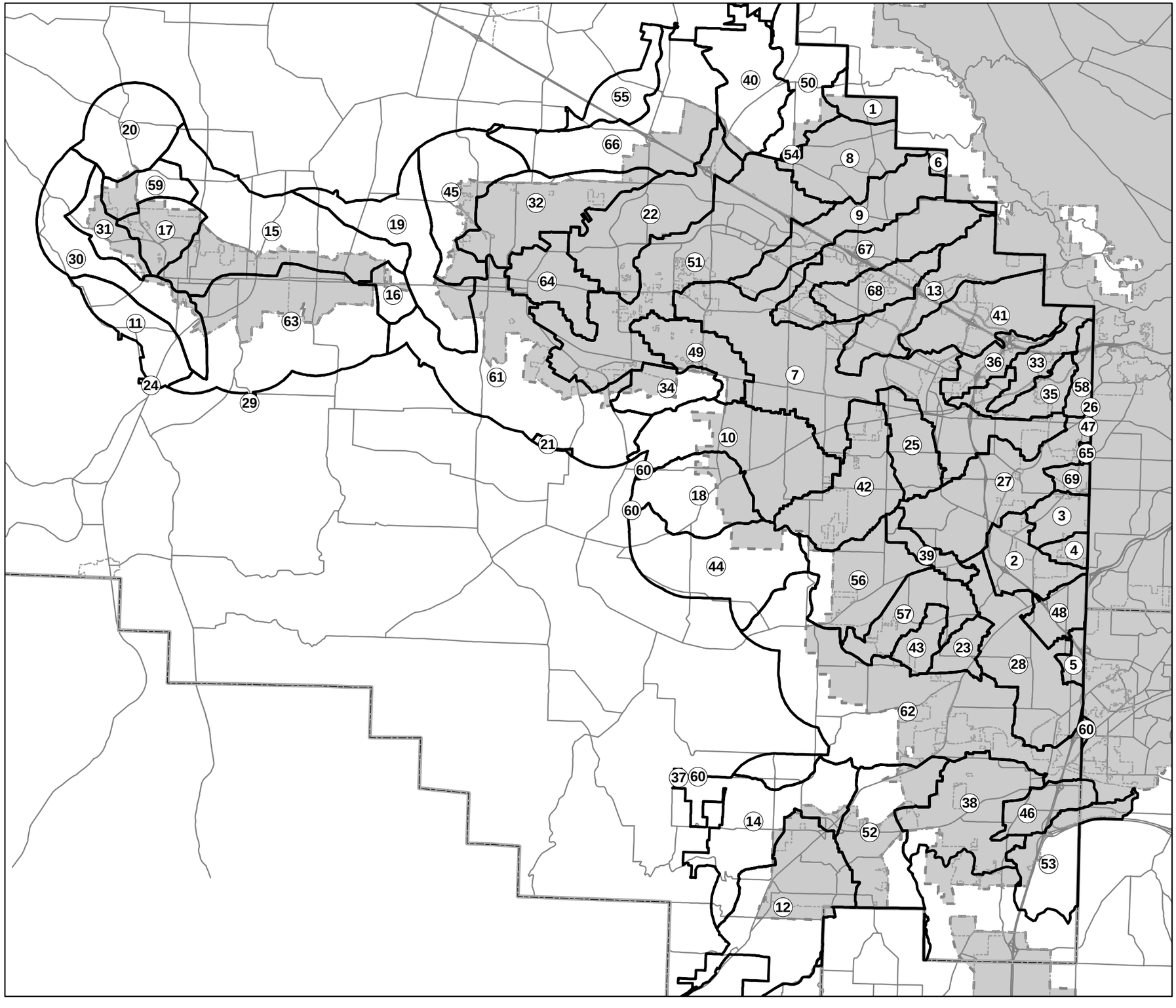


Figure 4b:
Local Site / Streamshed Boundaries



CHAPTER 5 ANALYSIS OF ESEE CONCLUSIONS AND PROGRAM CONCEPTS

A. Purpose

This chapter of the Tualatin Basin ESEE report evaluates potential program components that could be used to implement the decision to Allow, Limit, or Prohibit conflicting uses within significant Riparian Corridor and Wildlife Habitat resources and their impact areas throughout the Tualatin Basin Study Area. The issues identified in this chapter represent a summary of relevant mitigating factors that were identified during the Local-level ESEE process, but which did not warrant a site-level adjustment of the Basin ALP decision. Nonetheless, these factors were determined to be relevant and in many cases are incorporated as part of the program approach. Because of the program relevance, these factors are addressed as part of the Basin ESEE Analysis.

B. Key ESEE Recommendations and Potential Program Response

Balance Environmental Value with Economic Value

The Steering Committee determined that the most appropriate way in which to analyze the relative value of lands in the Basin for the Economic element of the ESEE analysis was to classify them based upon their hierarchical classification in the Regional Growth Concept and related underlying zoning. The intended result of this process is to maintain a higher level of economic focus on job locations and primary centers of economic activity with access to high capacity transportation facilities. The general result of this methodology places a high value on high intensity urban lands (HIU) that are harder to strategically locate and plan for, and a relatively lower value on lands zoned for lower density. In turn, the resulting ALP decision places a commensurately higher value on protection of habitat in areas zoned for lower densities. Generally, impacts on significant habitat resources from conflicting uses will be lower in areas zoned for lower densities and lower intensity land uses (such as single family residential areas). **Table 5-1**, below, summarizes the Basin ALP recommendation according to recommended limit level.

Table 5-1
Analysis Categories by ALP Recommendations

Analysis Category	Description	Acres	% of Total Area	Limit Recom-mendation
2A	Other Urban Areas with Class I Resource Values	6,735	5%	Strictly
3A	Future Urban Areas with Class I Resource Values	816	1%	Strictly
3B	Future Urban Areas with Class II Resource Values	340	<0.1%	Strictly
4A	Non-Urban Areas with Class I Resource Values	12,786	10%	Strictly
1A	High Intensity Urban Areas w/ Class I Res. Values	2,169	2%	Moderately
2B	Other Urban Areas with Class II Resource Values	4,154	3%	Moderately
3C	Future Urban Areas with Class III Resource Values	253	0%	Moderately

Table 5-1
Analysis Categories by ALP Recommendations

Analysis Category	Description	Acres	% of Total Area	Limit Recom-mendation
4B	Non-Urban Areas with Class II Resource Values	9,946	8%	Moderately
4C	Non-Urban Areas with Class III Resource Values	3,437	3%	Moderately
1B	High Intensity Urban Areas w/ Class II Res. Values	1,012	1%	Lightly
1C	High Intensity Urban Areas w/ Class III Res. Values	1,065	1%	Lightly
1D	High Intensity Urban Areas in Inner Impact Areas	1,181	1%	Lightly
2C	Other Urban Areas with Class III Resource Values	2,061	2%	Lightly
2D	Other Urban Areas in Inner Impact Areas	3,562	3%	Lightly
3D	Future Urban Areas in Inner Impact Areas	195	<0.1%	Lightly
4D	Non-Urban Areas in Inner Impact Areas	1,904	1%	Lightly
1E	High Intensity Urban Areas in Outer Impact Areas	16,034	12%	Allow
2E	Other Urban Areas in Outer Impact Areas	35,255	27%	Allow
3E	Future Urban Areas in Outer Impact Areas	1,819	1%	Allow
4E	Non-Urban Areas in Outer Impact Areas	26,063	20%	Allow
	TOTAL ACRES	**130,786**	**100%**	

The above recommendations represent a summary of the ALP Program Recommendations based upon the General or Basin-wide ESEE analysis. In several instances these general recommendations are adjusted to reflect site-specific circumstances. Criteria for adjusting the General ALP Recommendation are discussed in Chapter 4.

Potential Program Response: In order to protect all resources and inner impact areas, the program may establish an overlay district for Goal 5 areas within which the type and restrictiveness of the standards could be varied based on the type of area (i.e., riparian resource, habitat resource, riparian inner impact area, or habitat inner impact area) as well as the protection level (i.e., strictly limit, moderately limit, or lightly limit).

Strictly Limit Conflicting Uses in Some Resources Areas

Approximately ninety percent (20,337 acres) of Class I Riparian habitat areas are designated with a Strictly Limit program determination. Exceptions to this were given special consideration in the Basin-wide and Local-level ESEE analyses. For example, the ESEE and program decision adjust Class I resource areas to Moderately Limit in High Intensity Urban areas in order to shift the conflicting use balance more in favor of development in these economically important areas; environmental considerations are also factored into this analysis. For Class I Riparian areas that correspond with Clean Water Services' Sensitive Areas, the vegetated corridor standards continue to apply, regardless of the Goal 5 ALP designation. In general, local adjustments of Class I Riparian

inventory areas go below a SL program designation only in cases where special consideration is given to development capacity priorities.

Potential Program Response: In Strictly Limit Areas, the program may allow disturbance, but only when an Alternatives Analysis demonstrates no other practicable alternative, furthermore only limited uses of greater public benefit would be allowed generally to avoid a taking. The program may require mitigation of encroachment areas. The use of planning tools to minimize disturbance area may also be required in Strictly Limit Areas. Because the Strictly Limit category is applied to Class I resource areas, which are typically more complex and highly valued systems, a higher mitigation ratio designed to rectify impacts to those resources would be appropriate.

Moderately Limit Conflicting Uses in Some Resource Areas

Approximately ninety-three percent (14,440 acres) of Class II Riparian habitat are designated with a Moderately Limit program determination. Approximately 1,012 acres of Class II resources within High Intensity Urban Areas were given special consideration in the Basin-wide and Local level ESEE analyses in order to shift the conflicting use balance more in favor of development; however, approximately 3,437 acres of Non-Urban Areas with Class III Resource Values were included as Moderately Limit.

Potential Program Response: In Moderately Limit Areas, up to 50% disturbance could be allowed "by right," and up to 85% could be allowed following an Alternatives Analysis for special cases with mitigation, which provides a financial incentive to avoid or minimize disturbance or encroachment. The use of planning tools to minimize disturbance area may be required in Moderately Limit Areas.

Lightly Limit Conflicting Uses in Some Resource and Impact Areas

Approximately forty-six percent (3,126 acres) of Class III resource areas are designated with a Lightly Limit program determination, and approximately six and a half percent (1,012 acres) of Class II resource area is designated with a Lightly Limit program recommendation. The Lightly Limit program recommendation is generally applied to more marginal resource areas and to areas that are strategically important for future development as a means of balancing resource protection with development interests, as discussed in the analysis.

At Steering Committee meetings, the issue of adjusting the proposed program treatment for Lightly Limit (LL) areas designated on the Tualatin Basin ALP map was raised. Several business and industrial property owners stressed the need for greater flexibility in program application in LL areas which are often expansive in industrial locations. In addition, the topic of adjusting proposed design regulations and mitigation requirements for LL areas so that they would be more acceptable, and less burdensome to owners of property containing large areas of LL resources, yet still provide an appropriate level of resource protection, has been discussed by the Steering Committee.

Potential Program Response: In Lightly Limit Areas, resource disturbance may be allowed, but with mitigation of areas disturbed, which provides a financial incentive to avoid or minimize disturbance or encroachment. Land use tools (e.g. density reductions, clustering, etc.) could be used to avoid or minimize impacts. The use of planning tools to minimize disturbance area may be optional in Lightly Limit Areas.

In program development, the definition of "Lightly Limit" for Class II, III Regional Resources and Inner Impact Area should clearly distinguish between protections provided for regional resources vs. non-resource areas, and the difference between "Lightly Limit" protections for Class II vs. Class III resources. Additionally, because there is no distinction made between Riparian/Wildlife resources and Upland Wildlife resources (since the two types of regional resources were collapsed into three classes), the program should clearly state if and how these types of resources would be treated differently in terms of the measures of protection provided (e.g. "Lightly Limit").

C. Additional Program Considerations

In addition to the above, the following items are gleaned from the local site ESEE analyses as issues for program consideration. These items represent issues of concern that were not appropriate for or did not warrant site-level adjustments to the General ALP Recommendation. The Partners should consider program responses that will address these concerns for the overall basin.

- The program should provide flexibility provisions for developed properties, explicitly allowing minor improvements, such as remodeling, expansions, decks, and shops, to existing developed properties .

- The program should provide flexibility provisions for properties which have the majority of their property restricted.

- The program should allow, in all cases, public and private utilities to be constructed within the resource provided the impact is the minimum necessary to construct the utility.

- Situations where existing regulations are more restrictive than Basin Goal 5 provisions, the existing provisions shall continue to apply.

- The program should consider allowing redevelopment of existing parcels, provided impervious surface is not increased.

- Transportation and other infrastructure improvements receive best management practices under the program. If the improvements meet the best management practices, then the project can move forward without additional requirements. Best management practices can include safe fish passage culverts and other practices that minimize the long-term effects of these urban improvements.

- For public transportation facilities that cross resources where program solutions either strictly limit or moderately limit uses, provisions should be incorporated to ensure that necessary safety and maintenance activities can be conducted. These should include pavement overlays, roadway striping, incidental widening to provide safety shoulders, roadway realignments to improve safety, culvert cleaning and replacements and bridge maintenance/replacement.

- Consider program for permitting activity when it is within an approved Natural Resource Management Plan. (Metro, THPRD, CWS)

- Avoid takings. The "planning level" decision recommended in the program should allow for adjustment of the applicable standards as needed to avoid legal challenge. The staff and Steering Committee will continue to work with TBNRCC attorney as implementation standards for the Program are developed.

D. Mitigation

One approach toward balancing competing interests and conflicting uses may be to require mitigation of disturbed resource areas as a means of replacing compromised resources. The replacement ratio for mitigation of disturbed significant resource areas could vary based on the type of resource disturbed. For example, higher mitigation ratios may be considered for Strictly Limit resource areas, while lower ratios may be more appropriate for Lightly Limit resource areas.

The proposed program concept for urban land use regulations, described in Chapter 3 of the Preliminary Draft of the Tualatin Basin Goal 5 Program Report, includes a requirement for Low Impact Development (LID) techniques to be applied in all resource designations, SL, ML and LL. Mitigation or a fee-in-lieu may also be required for all resource areas that are disturbed, with ratios and costs per square foot increasing incrementally upward from LL to SL. As an alternative to this approach, that requires both Low Impact Development (LID) techniques and mitigation or a fee-in-lieu, LID techniques could be optional in LL areas, and if selected by the developer, no additional mitigation or fee-in-lieu would be required. This alternative approach would provide greater flexibility for development in LL areas, while still reducing the adverse habitat impacts associated with traditional development methods, and help to achieve the overall goal of improving the environmental health of the Tualatin Basin.

Road projects are already required to meet water quality and quantity standards, as well as mitigation requirements. In addition, DSL, COE and CWS regulations apply for stream crossings. The proposed program allows planned road crossings in all resource areas, subject to mitigation under existing regulations; this program approach defers to existing programs for mitigation of road projects. The public makes significant investments in establishing Transportation and Public Utility Plans that call for development and installation of important public facilities in certain locations. Subjecting these planned facilities to an analysis that could result in relocation requirements could have unintended yet significant impacts to the underlying facilities plans and could potentially render some projects financially or logistically infeasible.

An alternatives analysis to minimize impacts is not appropriate for major road projects, which are subject to exacting engineering standards and other mitigation requirements. However, it may be appropriate for neighborhood street crossings to be exempt from connectivity standards in significant habitat areas in order to minimize the number of stream crossings.

The proposed program requires utility projects to mitigate disturbance of resource areas by re-establishing vegetation/habitat in the disturbed area after installation is complete.

Low Impact Development (LID) Guidelines

Low Impact Development Standards/Guidelines would be used to achieve Effective Impervious Area reduction targets. The low-impact development (LID) standards recommended in Chapter 3 contribute to maintaining the current Effective Impervious Area (EIA) in the basin. Use of LID/habitat sensitive approaches to development would be required in all resource areas (Lightly, Moderately and Strictly Limit) and in Inner Impact Areas. In some redevelopment sites the EIA could be lowered due to replacing formerly impervious areas with pervious surfaces.

Existing CWS Design and Construction Standards

The vegetated corridor standards essentially require a fifty-foot buffer on each side of a perennial stream with wider buffers in areas of steep slopes [slopes 25% or greater] potentially up to two hundred feet on each side. Inside the ESEE study area for the Tualatin basin there are approximately 6,500 acres within fifty feet of the streams in Metro's inventory, of which 4,900 acres Metro designated as Class I Riparian resources.

E. Non-Regulatory Program Components

Non-Regulatory program considerations include education, stewardship recognition, restoration funds, tax incentives, technical assistance, promote volunteer activities, and acquisition are identified non-regulatory options. In addition, a few revenue-generating considerations are discussed below.

Bond Levies

Program development may consider provisions for potential funding of regionally significant acquisitions. This may be modeled after Washington County's Major Streets Transportation Improvement Program (MSTIP).

SWM Fee Revenue

The Partners have discussed the possibility of generating a revenue base to cover program costs through a relatively small increase in Surface Water Management (SWM) fees over the course of approximately twenty years. This local fee increase would be based on the existing SWM model and would be phased in over time with a total increase of $2.03 per equivalent dwelling unit (EDU). To identify projects that will achieve the goals and objectives identified in this program, the Partner's used Oregon State University's RESTORE model, which is a spatially explicit decision support tool designed to assist watershed planners in restoration decision-making. A preliminary run of the RESTORE model generated a list of projects on approximately 677 miles of streams and 688 facilities in the Tualatin Basin. The Partners may consider developing a program that targets these prioritized projects for future funding.

Fee in lieu of On-site Mitigation

This fee would be development-generated for disturbed resource areas that are not otherwise mitigated on- or off-site. The fee amount could be based on estimated adjusted cost of mitigation. A fee credit for on-site enhancement of degraded resource areas (outside of vegetated corridor areas) may also be available. The monies generated will be used for riparian and upland projects,

including enhancement, mitigation, and acquisition, with revenues directed toward projects within the sub-basin where they were generated. The fee-in-lieu of mitigation could provide the opportunity in some instances to replace a fragmented or disconnected resource of lower quality with a connected resource of high quality by pooling the fees to purchase a more environmentally complete site.

F. Monitoring Program Components

The role of TBNRCC may be extended to allow for revenue management and project prioritization with TBNRCC review of the program and proposed project list every five years. The increased Goal 5 SWM fee revenue and fee in lieu revenue could be pooled. Coordination with Metro and CWS regarding performance standards and monitoring, including CWS water quality monitoring activities for DEQ permit requirements would be on-going.

CHAPTER 6 BASIN WIDE ESEE ANALYSIS: PART TWO

A. Background

As previously discussed, Part One of the ESEE analysis for the Tualatin Basin Approach is conducted at two levels, referred to throughout this report as General (or Basin-wide) and Site-specific. The Basin-wide analysis was conducted first; it prescribes a level of Limit based on a cross-reference of generalized conflicting use types and relative value of inventoried habitat. As applied to inventoried habitat areas, this results in a map of the Basin illustrating the Basin-wide Allow-Limit-Prohibit (ALP) decision, with the range of "Limit" expanded by breaking it down into three levels—namely Lightly Limit, Moderately Limit, and Strictly Limit. This Basin-wide analysis provides the basis for the Partners' program decision and represents a large-scale, conceptual overview of balancing resource protection with potential conflicting uses in the inventoried part of the watershed.

The Partners then conducted a Site-specific ESEE analysis of sixty-nine sub-watershed or streamshed sites throughout the inventoried portion of the Basin. The Site-specific process provided a much more localized analysis and an opportunity to refine the Basin-wide ALP decision where necessary. Any resulting refinements of the Basin ALP designations are generally referred to as site-level adjustments; these are reflected on the ALP map that was presented to the TBNRCC as part of the draft program proposal in August 2004. To define the parameters of this process, the Partners identified a limited number of acceptable adjustment categories. The justification for each individual adjustment is documented in the Site-level ESEE analysis reports. The adjusted ALP maps represent the most comprehensive and practical depiction of the Partners' draft ALP decision for the August program proposal. The methodology for the Basin-wide and Site-specific ESEE analyses are detailed in previous chapters of this report. The cumulative results of the Part One ESEE analysis forms the basis for Part Two.

In August 2004, the TBNRCC held a public hearing for consideration of the draft program proposal described above. The hearing was held amid campaign efforts promoting Ballot Measure 37, which proposed government compensation for decreased property value resulting from imposed land use regulations; the proposed legislation ultimately passed the general election in November. In October, the Metro Council put forth a draft resolution (adopted in December as Council Resolution No. 04-3506A) to consider shifting the focus of the regional Goal 5 program away from regulation, with a stronger emphasis on voluntary and incentive approaches. Both of these factors had significant ramifications for the Basin proposal, which initially included an elaborate regulatory component. At the time of the Basin hearings, Metro staff indicated they may not meet their anticipated timeframe for a decision in December; this provided some relief for the Partners to go beyond the August 15 decision date established in the Basin Agreement. Deliberations over the Basin program decision were therefore delayed, so that the Partners could be fully informed of the electorate results and Metro's policy position prior to proceeding with the pending program recommendation.

B. Revised ESEE and Program Approach

In response to the radical changes in regulatory policy described above, the Basin Partners re-examined a course of action for the draft program and elected to continue honoring the Basin Agreement to pursue Metro adoption of a Tualatin Basin Approach. This is now being accomplished through adjustments to the program recommendation in a manner that responds to the current state

and regional policy context. A continued TBNRCC hearing date was set for March 28, 2005 in anticipation of a final recommendation to be forwarded to the Metro Council in early April.

The Basin's revised draft program has the same intent as the August draft, with an overarching goal to improve the environmental health of the Basin. This goal comes from Metro's Goal 5 vision statement as recommended by MPAC. The Basin program continues its fundamental reliance upon a range of projects and approaches funded through the revenue-generating component as a means to achieve the goal of improved health. All of the non-regulatory program elements proposed with the August draft continue to apply under the revised program. The most salient revisions to the August proposal include limiting the use of regulatory measures to areas restricted by development standards applicable to Clean Water Services (CWS)-defined Water Quality Sensitive Areas and their associated Vegetated Corridors, and ALP map adjustments to reflect this change.

Conflicting Uses

As discussed and determined during TBNRCC deliberations in August of 2004, lands initially classified and analyzed as Future Urban (FU) will receive the same ALP treatment and associated program recommendation as lands in the Other Urban (OU) category. For the purposes of this chapter, it is important to note that the original ESEE analyses (Part One) concluded that the program phase of the Basin Approach should address conflicting use activities that occur in all areas of the watershed, rather than be restricted to inventoried habitat areas. The rationale for recognition of this expanded impact area is as follows: While it is obviously important to the Partners' goal of improving environmental health that the Basin program address conflicting uses within the identified inventory realm (including its immediate impact areas), research shows that activities occurring throughout the watershed have potentially adverse impacts on stream health. Data collected by CWS supports this claim. Accordingly, the resulting Basin program proposal identifies urban areas located beyond inventoried habitat areas as Outer Impact Areas. (The process for identification of conflicting use categories is further described in Chapter 2.) The program targets the Outer Impact Area land category with incentive programs to promote awareness of habitat health issues and to encourage a higher level of sensitivity around potentially adverse activities. The program proposal supports this objective through education and outreach, technical assistance, and development incentives for low-impact and green design approaches. Although low-impact development (LID) techniques typically are promoted to address on-site storm water management, they also have important benefits for habitat, primarily resulting from mitigated stream impacts. The August draft program proposed augmenting the habitat benefits of LID approaches with required use of native plant materials and incentives for tree preservation. The revised draft program proposal continues to recommend this approach.

In addition to focusing on conflicting use categories within the urban portion of the Basin, the Basin Approach proposes program elements to address resource protection concerns in areas outside the UGB. The rural area of land included in the Metro inventory (which encompasses approximately a one-mile buffer to the UGB) is categorized by the Partners as Non-Urban land. The recommended ALP decision for the Future Urban conflicting use category applies a Moderately Limit designation to all Class I and Class II Riparian areas, and a Lightly Limit designation to all other areas. Because this area is rural, state rules pertaining to agricultural and forestry practices supercede local programs in most cases. However, for activities over which the county has jurisdiction, the Moderately Limit and Lightly Limit program incentives recommended for the urban area are available, as they apply to rural development. At such time that these land areas are approved for future Urban Growth

Boundary (UGB) expansions, Metro's Title 11 (of the Urban Growth Management Functional Plan) provisions for concept planning will apply. It is anticipated that the comprehensive nature of the concept planning provisions will provide for increased levels of protection for habitat areas. The Partners will continue to coordinate with Metro on future Title 11 revisions.

For rural lands beyond the limits of the Metro inventory, the county's existing Goal 5 program will continue to apply. These areas will remain eligible for program efforts that benefit fish and wildlife habitat. For example, CWS currently works with participating property owners of riparian corridor properties to provide technical assistance, plant materials, and supplements to CREP funds for the cooperative enhancement and preservation of streamside areas through the District's Enhanced CREP (Conservation Reserve Enhancement Program—a program sponsored in part by the US Department of Agriculture). This work in key headwater areas of the Tualatin River Basin results in improvements for water quality, habitat conditions, and temperature modification in downstream urban areas. The proposed Basin program elements applicable to land outside the UGB represent measures that go beyond the proposed Metro Goal 5 program in that they apply to areas outside of Metro's jurisdiction.

Changes to Basin-wide ESEE Analysis

The current political context reflected in the November election indicates strong support for the principles addressed by Measure 37. Adjustments to Metro's ALP also reflect broad social and political positions to achieve desired regional land use planning results through positive rather than negative feedback mechanisms. Additionally, voter approval of Measure 37 places a greater social implication on providing compensation for restrictive land use regulations, the potential cost of which was not provided for in the legislation. The August draft of the Basin program proposal has been revised to respond to these changes. This revision represents an updated examination of the Social and Economic elements of the ESEE analysis.

Limit Definitions

The post-Measure 37 environment challenges land use regulatory agencies to consider alternative methods of addressing mandates that traditionally have been addressed through the implementation of regulatory measures. This is particularly true for Goal 5, which requires local jurisdictions to implement programs that consider the protection and conservation of significant Goal 5 resources. The most customary means of limiting development of these significant areas has been through the implementation of regulatory programs. The Goal 5 OAR states that measures to implement a "limit" decision "…shall contain clear and objective standards" [OAR 660-023-0050(2)], further defining these as numerical standards, a non-discretionary requirement, or "…a performance standard that describes the outcome to be achieved by the design, siting, construction, or operation of the conflicting use and specifies the objective criteria to be used in evaluation outcome or performance." This implies that measures to implement a "limit" decision can go beyond standard development regulations to include measures such as a project design that avoids or minimizes impacts, or capital improvements that mitigate for individual or cumulative project impacts, as long as the outcome of the implementation of those measures can be objectively gauged to ensure the desired performance is achieved. The use of regulatory measures to achieve desired limit decisions is merely suggested under 660-023-0050(1), which states in part that "a program to achieve Goal 5 *may* include zoning measures that partially or fully allow conflicting uses (emphasis added)." Not only is a programmatic regulatory approach not required by Goal 5 Rules, the current political

environment's discouragement of the imposition of land use restrictions necessitates a method for achieving Goal 5 that emphasizes alternative approaches.

The Basin program's Limit definition is therefore based upon the premise that conflicting uses and their associated impacts can be effectively limited through long-term funding of resource improvements, coupled with the use of methods to encourage limiting the impacts of conflicting uses and actions to enhance habitat areas. (The intent of the Basin program is to prepare and implement clear and objective model guidelines for development design that will achieve a desired level of performance.) For these purposes, the primary sources of revenue is a fee applicable to all urban property owners. This is consistent with the proposed program decision to apply a limit designation to all conflicting use categories. The generation of revenue to fund these program approaches is therefore a means for achieving a Limit decision, which the Partners propose for the entire program area.

The Basin program's proposal for areas with a **Strictly Limit** designation represent the only portion of the Basin where regulatory measures for habitat protection are proposed. The program incorporates standards adopted to comply with Title 3 of Metro's Urban Growth Management Functional Plan, as implemented through Clean Water Services Design and Construction Standards for Sanitary Sewer and Surface Water Management. These development standards are clear and objective, and go beyond the minimum required by Metro for water quality (pursuant to existing Title 3 requirements).

The areas designated as **Moderately Limit** on the proposed Basin ALP program map represent Class I and Class II Riparian inventory areas that lie beyond the limits of the Vegetated Corridor boundary. Under the proposed program, these areas—along with Strictly Limit areas—will be targeted with revenue expenditures as described in Clean Water Services' Healthy Streams Plan. In addition, the program proposal for ML areas includes design flexibility, incentives and technical assistance for LID and green design, and the option to forego minimum density requirements in favor of permanent resource protection.

The proposed program extends the design flexibility, technical assistance and design incentives to **Lightly Limit** areas as well.

C. Administrative Rule Compliance

The land use regulatory component of the Basin Goal 5 program relies upon Clean Water Services' recently adopted Vegetated Corridor standards and existing local Goal 5 programs. The extensive regulatory approach proposed with the August draft of the Basin program was intended to replace many aspects of existing local programs in favor of a consistent, Basin-wide regulatory program. As revised however, the program relies on retention of existing programs in lieu of proposing a new regulatory scheme, as an extension and augmentation of the Basin Approach. (While the Basin program does not repeal existing Goal 5 programs, it does not include them as part of the Basin Approach.)

The proposed Basin program achieves its objective of meeting the requirements of the Goal 5 OAR in the following manner: 1) The Basin Approach is unique but responsive to all of the procedural steps required by the Goal 5 Rule. In particular, the Basin Approach uses Metro's fish and wildlife habitat resource inventory to conduct an ESEE analysis, the results of which inform a limit decision,

upon which various program measures are based in order to achieve the desired limit effect. 2) Traditionally, a limit decision is regarded primarily in terms of land use regulation, but the Rule allows and perhaps even sanctions a non-regulatory approach. The proposed Basin program is consistent with this and is valid because the range of non-regulatory program measures will be effective in limiting conflicting use impacts. The proposed monitoring portion of the program, the adaptive management nature of the funded projects, and the capacity for future augmentation of the revenue source ensures that the program will be sufficiently effective to meet the Partners' goal for improved environmental health throughout the watershed. 3) The regulatory standards that are being relied upon for identified Strictly Limit areas (i.e., the Vegetated Corridor standards) are clear and objective. Additional regulations to protect habitat may also apply to areas throughout the Basin as existing Goal 5 programs will remain in place; these are acknowledged and therefore meet the clear and objective OAR standard.

Changes to ALP Decision

The Basin ALP decision was modified to reflect the revised program approach directed by the TBNRCC, namely to restrict the regulatory component to vicinities identified by Clean Water Services as Water Quality Sensitive Areas and Vegetated Corridors. In response to Metro's modified ALP decision, which is Allow for all areas other than Class I and Class II Riparian resources, the revised Basin program proposal generally designates all non-Class I/II Riparian resource areas as Lightly Limit. As described in the Program Report, the Basin's revised Lightly Limit designation is limited to non-regulatory program elements, including the collection of fees and the implementation of voluntary and incentive measures.

With the exception of HIU category lands, all areas under the regulatory purview of Clean Water Services are assumed to have a Strictly Limit program decision, unless a prior ALP adjustment was recommended by the Steering Committee. Rationales for the ALP adjustment process and the Basin ALP decision of Moderately Limit in Class I and II Riparian resource areas are reflected previous chapters of this Basin Wide ESEE Analysis, which were approved by the TBNRCC in April 2004. Within these areas, the Vegetated Corridor standards will continue to apply even though the ALP map may reflect a decision for Moderately or Lightly Limit. While these standards are clear and objective, they also provide for an alternative approach that allows for on-site averaging of required corridor buffer widths. This therefore provides the opportunity for program flexibility in HIU areas in order to accommodate development.

Site-level adjustments continue to be reflected on the ALP map despite the applicability of baseline Vegetated Corridor regulations because these areas are delineated at the site level on a case-by-case basis; the boundary for the Vegetated Corridor area shown on the ALP map is merely a proxy for illustrative purposes, and will not be accurate in all cases. Preserving the underlying adjusted ALP decision on the map ensures that the appropriate Limit designation will be applied to any portions that may be determined at the time of development to lie beyond the Vegetated Corridor boundary. Class I and II Riparian resource areas that are outside of the mapped Vegetated Corridor proxy are generally shown as Moderately Limit, except for cases where previously adjusted to reflect a Lightly Limit designation. The most substantial distinction between ML and LL program expression is the option to forego minimum density requirements in ML areas.

For inventoried areas outside of the UGB, Class I and II Riparian resources are given a Moderately Limit designation, while all others are Lightly Limit. **Table 6-1**, below, provides a summary of recommended ALP designations for all of the Basin's ESEE analysis categories.

Table 6-1
Summary of Revised Basin-Wide ESEE ALP Recommendations
(March 2005)

		CONFLICTING USE CATGEGORY			
		High Intensity Urban	Other Urban	Future Urban (2002 and 2004 additions)	Non-Urban (outside UGB)
RESOURCE CATEGORY	Class I & II Riparian **Inside** Vegetated Corridor	*Moderately Limit*	*Strictly Limit*	*Strictly Limit*	*N/A*
	Class I & II Riparian **Outside** Vegetated Corridor	*Moderately Limit*	*Moderately Limit*	*Moderately Limit*	*Moderately Limit*
	All Other Resource Areas	*Lightly Limit*	*Lightly Limit*	*Lightly Limit*	*Lightly Limit*
	Inner Impact Area	*Lightly Limit*	*Lightly Limit*	*Lightly Limit*	*Lightly Limit*
	Outer Impact Area	*Lightly Limit*	*Lightly Limit*	*Lightly Limit*	*Lightly Limit*

Note: All Site-level ALP adjustments approved by the Steering Committee remain in effect

D. Conclusions

The Basin program exceeds the minimum requirements of the Goal 5 OAR through a commitment to improve environmental health. The program proposes to fulfill this commitment and achieve the intent of its range of limit decisions through the use of revenue to fund capital projects and various tools that will result in limiting the impacts of conflicting uses on identified resource areas. These revenue-funded projects are coordinated with Clean Water Services' Healthy Streams Plan, and include a massive Basin-wide tree planting effort for stream corridors, culvert replacements, storm water facility outfall retrofits, and stream corridor enhancement projects. Revenue-funded tools proposed by the Basin program include education and outreach, technical assistance for development design and owner-initiated stream corridor enhancements, and partnerships with property owners to support riparian preservation, among others. All property owners in the CWS district contribute to surface water management fees that will be used as the primary revenue source, amounting to approximately $95 Million over twenty years. The broad application and comprehensive nature of these revenue-funded approaches will result in a strategy for improved stream health.

There is planning work still to be done with regard to SWM-funded programs and coordination with Clean Water Services Healthy Streams Plan. This is part of the Partners' ongoing commitment to respond to other environmental programs and regulations. Through a coordinated effort, the Basin Partners anticipate future program adaptations to reflect this.

APPENDIX A TUALATIN BASIN APPROACH

1/30/02 Draft

What The basin approach is a proposal that local governments take responsibility as described in Steps 1 and 2, below, within the greater part of the Tualatin River basin for the next phases (ESEE and program development) of the region's fish and wildlife habitat program, subject to coordination with, and final product approval by, the Metro Council. Riparian corridors and wildlife habitat determined to be regionally significant consistent with State Goal 5, and Clean Water Act requirements and Endangered Species Act listings would all have to be addressed in a basin approach.

Where The basin proposal could apply to any large whole watershed within the region, if approved by Metro. For the Tualatin Basin, the general geographic extent is that area draining the Tualatin River. The basin consists of areas inside of the current Metro urban growth boundary and Metro jurisdictional boundary, Metro UGB alternatives analysis areas and rural, farm and forest lands beyond. Regional resources determined by Metro, potential regional resources identified in areas studied by Metro in its UGB Alternatives Analysis and the rural, farm and forest lands beyond identified by Washington County as significant resources shall be addressed in the Tualatin Basin Approach.

Who Currently, a consortium of local governments including the cities of Beaverton, Cornelius, Durham, Forest Grove, Hillsboro, King City, Sherwood, Tigard and Tualatin, as well as Washington County, Clean Water Services and Tualatin Hills Parks and Recreation District have expressed a willingness to address the Tualatin Basin. Inclusion of, or coordination with, other jurisdictions with responsibilities within the Tualatin Basin such as Clackamas County and the cities of Lake Oswego and Portland are underway. Individual property owners, interest groups, local government advisory committees and other interested parties would also be provided opportunities to participate during this work effort. In addition, Metro would participate in the Basin Approach through Council representation on the Tualatin Basin Coordinating Committee, through project updates to, and feedback from the Natural Resource Committee, MPAC, MTAC, Goal 5 TAC, WRPAC, and through the Metro staff. The Metro Council would make recommendations about the ESEE decision to delineate areas to "prohibit" or "limit" conflicting uses and make the final decision about whether a basin approach met regional standards after consultation with its advisory committees.

Why The Basin Approach proposal has been made in part because of a concurrent, joint efforts by the Tualatin Basin governments, the Washington County Clean Water Services and others to address Federal Clean Water Act requirements and Endangered Species Act listings that likely will affect the same areas as Metro's fish and wildlife habitat protection plan. In addition to reducing the number of times that the same areas are analyzed and public outreach provided and applying more detailed information than is readily available region-wide, this Basin Approach allows for coordination among similar, but distinct Federal, State and regional requirements. The basin approach can also provide local governments with an opportunity to shape a basin-wide program that is tailored to local conditions within the Tualatin River basin while addressing regional Goal 5 objectives. Because the Basin Approach is proposed as being completed concurrently with Metro's regional tasks, the Tualatin Basin is most likely to be implemented sooner than other portions of the region if the non-basin jurisdictions wait for the Metro regional safe harbor to be completed and acknowledged by the state before they begin local implementation tasks.

When The basin proposal would complete this work parallel to the rest of Metro's fish and wildlife habitat program region-wide. Both the region's work effort as well as the Basin Approach work products would be timed to allow for Metro Council consideration of the data and likely capacity consequences of a regional fish and wildlife protection plan in order to make decisions about the region's urban growth boundary by December 31, 2002. To accomplish this, materials defining the impact on the UGB buildable land inventory would need to be readied by Metro staff by August 1, 2002. The Tualatin Basin Approach has proposed to meet Metro's decision timeline. The Tualatin Basin Coordinating Committee would formally provide a Basin Approach timeline and work completion schedule.

How The basin approach will be accomplished by setting goals and standards, providing legal structure for coordination, establishing a process and monitoring and evaluation.

Goals. The adopted Regional Framework Plan states that the region shall manage watersheds to protect, restore and ensure to the maximum extent practicable the integrity of streams, wetlands and floodplains, and their multiple biological, physical and social values. Metro's fish and wildlife vision articulates the overriding goal of the Basin Approach:

> "The overall goal is to conserve, protect and restore a continuous ecologically viable streamside corridor system, from the streams' headwaters to their confluence with other streams and rivers, and with their floodplains in a manner that is integrated with the surrounding urban landscape. This system will be achieved through conservation, protection and appropriate restoration of streamside corridors through time."

Improvement of habitat health within each of the Region's 27 hydrologic units including the eleven hydrologic units inside the Tualatin Basin shall be a primary objective of the Basin Approach. The following objectives within Metro's Fish and Wildlife Habitat Vision Statement shall be pursued by the Basin Approach: to sustain and enhance native fish and wildlife species and their habitats; to mitigate high storm flows and maintain adequate summer flows; to provide clean water; and to create communities that fully integrate the built and natural environment. The region wide system of linked significant fish and wildlife habitats will be achieved through preservation of existing resources and restoration to recreate critical linkages, as appropriate and consistent with ESEE conclusions about whether to prohibit, limit or allow conflicting uses within a regionally significant resource site. Avoiding any future ESA listings is another primary Basin Approach objective. The sentences quoted above from the Vision Statement as the overall goal shall be the goal against which the Tualatin Basin Approach will be reviewed. Objectives cited above provide additional guidance as to how the Tualatin Basin Approach should be completed and an intergovernmental agreement between the consortium and Metro will provide additional working details.

Legal Structure. Intergovernmental agreements will be used to ensure Basin Approach coordination among the affected local governments, and Metro. In addition, staff level memoranda of understanding will be used to assure coordination between consortium members, Metro and those relevant jurisdictions not directly participating in the Tualatin Basin Approach.

Process. The Metro-Tualatin Basin Approach coordination process would have two-steps. The first step would be ~~a~~ check-in by the Tualatin Basin Approach with Metro before making ESEE decisions for the Basin for Metro input and advice. The second step would be Metro Council review of Basin

Approach program recommendations and determination of program conformance with the Basin Approach review criteria described above. In addition, ongoing coordination between the Tualatin Basin Approach staff and Metro staff would occur as work on the Basin Approach proceeds. A public involvement plan meeting the region's goals for providing substantial opportunities for participation by the public would be completed for the region (including how the Tualatin Basin would be addressed) after coordination with the Metro Committee on Citizen Involvement.

Step 1. The ESEE Decision. Metro, local governments and other interested parties will work to establish a regional ESEE method. One possible method would be to design regional ESEE parameters for application within 27 hydrologic units throughout the Region. The Tualatin Basin would develop basin-wide and local ESEE parameters for the Tualatin Basin. Both sets of ESEE parameters shall guide the identification of areas for prohibiting, limiting or allowing conflicting uses within the Tualatin Basin. The results of applying these parameters within the Basin would be mapped.

This map could be constructed for the entire region, using the selected regional ESEE parameters and the mapped results of the Tualatin Basin Approach ESEE analysis, further informed by any other local considerations. This information would be used for two purposes. First, it would provide the foundation of the ESEE decision. Second, the map could also be used to estimate the influence of the region's fish and wildlife habitat program on the housing and job capacity calculations for the region's periodic review of its urban growth boundary. The Tualatin Basin ESEE decision about which areas to prohibit, limit or allow conflicting uses within the Tualatin Basin would be made by the local participating governments, through the Tualatin Basin Natural Resource Coordinating Committee, after consideration of public comments, including Metro Council input and recommendations.

Step 2 Program Design and Adoption. Region-wide, Metro will prepare a regional Goal 5 program (regional safe harbor, riparian district plan and local discretionary review options) for the entire region which, for the Tualatin Basin, would reflect the program developed through the Basin Approach. Regional and Basin program elements, including incentives, acquisition, education and regulatory tools would then be prepared. The region would prepare its regional safe harbor, riparian district plan specifications and the local discretionary review options. The Tualatin Basin would design its program. For example, the Tualatin Basin Approach could include, but would not be limited to the following kinds of program elements:

- Revised and new land use "goal 5 overlay" mapped areas and new regulatory language for all land use authorities within the Basin;
- Clean Water Services (CWS) Design & Construction standards (possible revisions);
- Review and possible revisions to CWS maintenance programs (possibly maintenance programs for all jurisdictions including park district);
- Identification and prioritization of restoration sites and financial plan ("Environmental CIP");
- Coordination with Metro Greenspaces program for targeted acquisitions; and
- Possible incorporation of "green street" optional standards into all local codes (project currently underway being funded by Tualatin Valley Water Quality Endowment Fund)

After taking public testimony, the Tualatin Basin would forward a recommended program to Metro. After its own review process using agreed upon review standards, the Metro Council would determine

whether the Basin Approach substantially complies and whether to approve the Tualatin Basin Approach.

Monitoring and Evaluation. Metro Code requires that performance measures be used to evaluate the success and effectiveness of its functional plan to realize regional policies. In addition, the National Marine Fisheries Service 4(d) rule calls for monitoring and evaluation. After local programs have been enacted and some time period passes to allow for programs to take hold, Metro should evaluate its policies and their implementation to compare goals with actual outcomes. If a basin approach significantly lagged region-wide efforts, as a last resort, regional safe harbor provisions could be applied to the basin area until a basin approach is completed and approved by the Metro Council.

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APPENDIX B LCDC PROCEDURES AND REQUIREMENTS FOR COMPLYING WITH GOAL 5

Oregon Administrative Rules Ch. 660: LAND CONSERVATION AND DEVELOPMENT DEPARTMENT

Division 23: PROCEDURES AND REQUIREMENTS FOR COMPLYING WITH GOAL 5
(The Oregon Administrative Rules contain OARs filed through February 13, 2004)

660-023-0000

Purpose and Intent

This division establishes procedures and criteria for inventorying and evaluating Goal 5 resources and for developing land use programs to conserve and protect significant Goal 5 resources. This division explains how local governments apply Goal 5 when conducting periodic review and when amending acknowledged comprehensive plans and land use regulations.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0010

Definitions

As used in this division, unless the context requires otherwise:

(1) "Conflicting use" is a land use, or other activity reasonably and customarily subject to land use regulations, that could adversely affect a significant Goal 5 resource (except as provided in OAR 660-023-0180(1)(b)). Local governments are not required to regard agricultural practices as conflicting uses.

(2) "ESEE consequences" are the positive and negative economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use.

(3) "Impact area" is a geographic area within which conflicting uses could adversely affect a significant Goal 5 resource.

(4) "Inventory" is 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. As a verb, "inventory" means to collect, prepare, compile, or refine information about one or more resource sites. (See resource list.)

(5) "PAPA" is a "post-acknowledgment plan amendment." The term encompasses actions taken in accordance with ORS 197.610 through 197.625, including amendments to an acknowledged

comprehensive plan or land use regulation and the adoption of any new plan or land use regulation. The term does not include periodic review actions taken in accordance with ORS 197.628 through 197.650.

(6) "Program" or "program to achieve the goal" is a plan or course of proceedings and action either to prohibit, limit, or allow uses that conflict with significant Goal 5 resources, adopted as part of the comprehensive plan and land use regulations (e.g., zoning standards, easements, cluster developments, preferential assessments, or acquisition of land or development rights).

(7) "Protect," when applied to an individual resource site, means to limit or prohibit uses that conflict with a significant resource site (except as provided in OAR 660-023-0140, 660-023-0180, and 660-023-0190). When applied to a resource category, "protect" means to develop a program consistent with this division.

(8) "Resource category" is any one of the cultural or natural resource groups listed in Goal 5.

(9) "Resource list" includes the description, maps, and other information about significant Goal 5 resource sites within a jurisdiction, adopted by a local government as a part of the comprehensive plan or as a land use regulation. A "plan inventory" adopted under OAR 660-016-0000(5)(c) shall be considered to be a resource list.

(10) "Resource site" or "site" is a particular area where resources are located. A site may consist of a parcel or lot or portion thereof or may include an area consisting of two or more contiguous lots or parcels.

(11) "Safe harbor" has the meaning given to it in OAR 660-023-0020(2).

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & 197.225 - 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0020

Standard and Specific Rules and Safe Harbors

(1) The standard Goal 5 process, OAR 660-023-0030 through 660-023-0050, consists of procedures and requirements to guide local planning for all Goal 5 resource categories. This division also provides specific rules for each of the fifteen Goal 5 resource categories (see OAR 660-023-0090 through 660-023-0230). In some cases this division indicates that both the standard and the specific rules apply to Goal 5 decisions. In other cases, this division indicates that the specific rules supersede parts or all of the standard process rules (i.e., local governments must follow the specific rules rather than the standard Goal 5 process). In case of conflict, the resource-specific rules set forth in OAR 660-023-0090 through 660-023-0230 shall supersede the standard provisions in OAR 660-023-0030 through 660-023-0050.

(2) A "safe harbor" consists of an optional course of action that satisfies certain requirements under the standard process. Local governments may follow safe harbor requirements rather than addressing certain requirements in the standard Goal 5 process. For example, a jurisdiction may choose to identify

"significant" riparian corridors using the safe harbor criteria under OAR 660-023-0090(5) rather than follow the general requirements for determining "significance" in the standard Goal 5 process under OAR 660-023-0030(4). Similarly, a jurisdiction may adopt a wetlands ordinance that meets the requirements of OAR 660-023-0100(4)(b) in lieu of following the ESEE decision process in OAR 660-023-0040.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0030

Inventory Process

(1) Inventories provide the information necessary to locate and evaluate resources and develop programs to protect such resources. The purpose of the inventory process is to compile or update a list of significant Goal 5 resources in a jurisdiction. This rule divides the inventory process into four steps. However, all four steps are not necessarily applicable, depending on the type of Goal 5 resource and the scope of a particular PAPA or periodic review work task. For example, when proceeding under a quasi-judicial PAPA for a particular site, the initial inventory step in section (2) of this rule is not applicable in that a local government may rely on information submitted by applicants and other participants in the local process. The inventory process may be followed for a single site, for sites in a particular geographical area, or for the entire jurisdiction or urban growth boundary (UGB), and a single inventory process may be followed for multiple resource categories that are being considered simultaneously. The standard Goal 5 inventory process consists of the following steps, which are set out in detail in sections (2) through (5) of this rule and further explained in sections (6) and (7) of this rule:

(a) Collect information about Goal 5 resource sites;

(b) Determine the adequacy of the information;

(c) Determine the significance of resource sites; and

(d) Adopt a list of significant resource sites.

(2) Collect information about Goal 5 resource sites: The inventory process begins with the collection of existing and available information, including inventories, surveys, and other applicable data about potential Goal 5 resource sites. If a PAPA or periodic review work task pertains to certain specified sites, the local government is not required to collect information regarding other resource sites in the jurisdiction. When collecting information about potential Goal 5 sites, local governments shall, at a minimum:

(a) Notify state and federal resource management agencies and request current resource information; and

(b) Consider other information submitted in the local process.

(3) Determine the adequacy of the information: In order to conduct the Goal 5 process, information about each potential site must be adequate. A local government may determine that the information about a site is inadequate to complete the Goal 5 process based on the criteria in this section. This determination shall be clearly indicated in the record of proceedings. The issue of adequacy may be raised by the department or objectors, but final determination is made by the commission or the Land Use Board of Appeals, as provided by law. When local governments determine that information about a site is inadequate, they shall not proceed with the Goal 5 process for such sites unless adequate information is obtained, and they shall not regulate land uses in order to protect such sites. The information about a particular Goal 5 resource site shall be deemed adequate if it provides the location, quality and quantity of the resource, as follows:

(a) Information about location shall include a description or map of the resource area for each site. The information must be sufficient to determine whether a resource exists on a particular site. However, a precise location of the resource for a particular site, such as would be required for building permits, is not necessary at this stage in the process.

(b) Information on quality shall indicate a resource site's value relative to other known examples of the same resource. While a regional comparison is recommended, a comparison with resource sites within the jurisdiction itself is sufficient unless there are no other local examples of the resource. Local governments shall consider any determinations about resource quality provided in available state or federal inventories.

(c) Information on quantity shall include an estimate of the relative abundance or scarcity of the resource.

(4) Determine the significance of resource sites: For sites where information is adequate, local governments shall determine whether the site is significant. This determination shall be adequate if based on the criteria in subsections (a) through (c) of this section, unless challenged by the department, objectors, or the commission based upon contradictory information. The determination of significance shall be 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.

(5) Adopt a list of significant resource sites: When a local government determines that a particular resource site is significant, the local government shall include the site on a list of significant Goal 5 resources adopted as a part of the comprehensive plan or as a land use regulation. Local governments shall complete the Goal 5 process for all sites included on the resource list except as provided in OAR 660-023-0200(7) for historic resources, and OAR 660-023-0220(3) for open space acquisition areas.

(6) Local governments may determine that a particular resource site is not significant, provided they maintain a record of that determination. Local governments shall not proceed with the Goal 5 process for such sites and shall not regulate land uses in order to protect such sites under Goal 5.

(7) Local governments may adopt limited interim protection measures for those sites that are determined to be significant, provided:

(a) The measures are determined to be necessary because existing development regulations are inadequate to prevent irrevocable harm to the resources on the site during the time necessary to complete the ESEE process and adopt a permanent program to achieve Goal 5; and

(b) The measures shall remain effective only for 120 days from the date they are adopted, or until adoption of a program to achieve Goal 5, whichever occurs first.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0040

ESEE Decision Process

(1) Local governments shall develop a program to achieve Goal 5 for all significant resource sites based on an analysis of the economic, social, environmental, and energy (ESEE) consequences that could result from a decision to allow, limit, or prohibit a conflicting use. This rule describes four steps to be followed in conducting an ESEE analysis, as set out in detail in sections (2) through (5) of this rule. Local governments are not required to follow these steps sequentially, and some steps anticipate a return to a previous step. However, findings shall demonstrate that requirements under each of the steps have been met, regardless of the sequence followed by the local government. The ESEE analysis need not be lengthy or complex, but should enable reviewers to gain a clear understanding of the conflicts and the consequences to be expected. The steps in the standard ESEE process are as follows:

(a) Identify conflicting uses;

(b) Determine the impact area;

(c) Analyze the ESEE consequences; and

(d) Develop a program to achieve Goal 5.

(2) Identify conflicting uses. Local governments shall identify conflicting uses that exist, or could occur, with regard to significant Goal 5 resource sites. To identify these uses, local governments shall examine land uses allowed outright or conditionally within the zones applied to the resource site and in its impact area. Local governments are not required to consider allowed uses that would be unlikely to occur in the impact area because existing permanent uses occupy the site. The following shall also apply in the identification of conflicting uses:

(a) If no uses conflict with a significant resource site, acknowledged policies and land use regulations may be considered sufficient to protect the resource site. The determination that there are no conflicting uses must be based on the applicable zoning rather than ownership of the site. (Therefore, public ownership of a site does not by itself support a conclusion that there are no conflicting uses.)

(b) A local government may determine that one or more significant Goal 5 resource sites are conflicting uses with another significant resource site. The local government shall determine the level of protection for each significant site using the ESEE process and/or the requirements in OAR 660-023-0090 through 660-023-0230 (see OAR 660-023-0020(1)).

(3) Determine the impact area. Local governments shall determine an impact area for each significant resource site. The impact area shall be drawn to include only the area in which allowed uses could adversely affect the identified resource. The impact area defines the geographic limits within which to conduct an ESEE analysis for the identified significant resource site.

(4) Analyze the ESEE consequences. Local governments shall analyze the ESEE consequences that could result from decisions to allow, limit, or prohibit a conflicting use. The analysis may address each of the identified conflicting uses, or it may address a group of similar conflicting uses. A local government may conduct a single analysis for two or more resource sites that are within the same area or that are similarly situated and subject to the same zoning. The local government may establish a matrix of commonly occurring conflicting uses and apply the matrix to particular resource sites in order to facilitate the analysis. A local government may conduct a single analysis for a site containing more than one significant Goal 5 resource. The ESEE analysis must consider any applicable statewide goal or acknowledged plan requirements, including the requirements of Goal 5. The analyses of the ESEE consequences shall be adopted either as part of the plan or as a land use regulation.

(5) Develop a program to achieve Goal 5. Local governments shall determine whether to allow, limit, or prohibit identified conflicting uses for significant resource sites. This decision shall be based upon and supported by the ESEE analysis. A decision to prohibit or limit conflicting uses protects a resource site. A decision to allow some or all conflicting uses for a particular site may also be consistent with Goal 5, provided it is supported by the ESEE analysis. One of the following determinations shall be reached with regard to conflicting uses for a significant resource site:

(a) A local government may decide that a significant resource site is of such importance compared to the conflicting uses, and the ESEE consequences of allowing the conflicting uses are so detrimental to the resource, that the conflicting uses should be prohibited.

(b) A local government may decide that both the resource site and the conflicting uses are important compared to each other, and, based on the ESEE analysis, the conflicting uses should be allowed in a limited way that protects the resource site to a desired extent.

(c) A local government may decide that the conflicting use should be allowed fully, notwithstanding the possible impacts on the resource site. The ESEE analysis must demon-strate that the conflicting use is of sufficient importance relative to the resource site, and must indicate why measures to protect the resource to some extent should not be provided, as per subsection (b) of this section.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0050

Programs to Achieve Goal 5

(1) For each resource site, local governments shall adopt comprehensive plan provisions and land use regulations to implement the decisions made pursuant to OAR 660-023-0040(5). The plan shall describe the degree of protection intended for each significant resource site. The plan and implementing ordinances shall clearly identify those conflicting uses that are allowed and the specific standards or limitations that apply to the allowed uses. A program to achieve Goal 5 may include zoning measures that partially or fully allow conflicting uses (see OAR 660-023-0040(5)(b) and (c)).

(2) When a local government has decided to protect a resource site under OAR 660-023-0040(5)(b), implementing measures applied to conflicting uses on the resource site and within its impact area shall contain clear and objective standards. For purposes of this division, a standard shall be considered clear and objective if it meets any one of the following criteria:

(a) It is a fixed numerical standard, such as a height limitation of 35 feet or a setback of 50 feet;

(b) It is a nondiscretionary requirement, such as a requirement that grading not occur beneath the dripline of a protected tree; or

(c) It is a performance standard that describes the outcome to be achieved by the design, siting, construction, or operation of the conflicting use, and specifies the objective criteria to be used in evaluating outcome or performance. Different performance standards may be needed for different resource sites. If performance standards are adopted, the local government shall at the same time adopt a process for their application (such as a conditional use, or design review ordinance provision).

(3) In addition to the clear and objective regulations required by section (2) of this rule, except for aggregate resources, local governments may adopt an alternative approval process that includes land use regulations that are not clear and objective (such as a planned unit development ordinance with discretionary performance standards), provided such regulations:

(a) Specify that landowners have the choice of proceeding under either the clear and objective approval process or the alternative regulations; and

(b) Require a level of protection for the resource that meets or exceeds the intended level deter-mined under OAR 660-023-0040(5) and 660-023-0050(1).

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0060

Notice and Land Owner Involvement

Local governments shall provide timely notice to landowners and opportunities for citizen involvement during the inventory and ESEE process. Notification and involvement of landowners,

citizens, and public agencies should occur at the earliest possible opportunity whenever a Goal 5 task is undertaken in the periodic review or plan amendment process. A local government shall comply with its acknowledged citizen involvement program, with statewide goal requirements for citizen involvement and coordination, and with other applicable procedures in statutes, rules, or local ordinances.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0070

Buildable Lands Affected by Goal 5 Measures

(1) If measures to protect significant resource sites inside urban growth boundaries affect the inventory of buildable lands in acknowledged plans required by Goals 9, 10 and 14, a local government outside of the Metro UGB, and Metro inside the Metro UGB, prior to or at the next periodic review, shall:

(a) Amend its urban growth boundary to provide additional buildable lands sufficient to compensate for the loss of buildable lands caused by the application of Goal 5;

(b) Redesignate other land to replace identified land needs under Goals 9, 10, and 14 provided such action does not take the plan out of compliance with other statewide goals; or

(c) Adopt a combination of the actions described in subsections (a) and (b) of this section.

(2) If a local government redesignates land for higher density under subsections (1)(b) or (c) of this rule in order to meet identified housing needs, the local government shall ensure that the redesignated land is in locations appropriate for the housing types, and is zoned at density ranges that are likely to be achieved by the housing market.

(3) Where applicable, the requirements of ORS 197.296 shall supersede the requirements of sections (1) and (2) of this rule.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0080

Metro Regional Resources

(1) For purposes of this rule, the following definitions apply:

(a) "Metro" is the Metropolitan Service District organized under ORS Chapter 268, and operating under the 1992 Metro Charter, for 24 cities and certain urban portions of Multnomah, Clackamas, and Washington counties.

(b) "Regional resource" is a site containing a significant Goal 5 resource, including but not limited to a riparian corridor, wetland, or open space area, which is identified as a regional resource on a map adopted by Metro ordinance.

(2) Local governments shall complete the Goal 5 process in this division for all regional resources prior to or during the first periodic review following Metro's adoption of a regional resources map, unless Metro adopts a regional functional plan by ordinance to establish a uniform time for all local governments to complete the Goal 5 process for particular regional resource sites.

(3) Metro may adopt one or more regional functional plans to address all applicable requirements of Goal 5 and this division for one or more resource categories and to provide time limits for local governments to implement the plan. Such functional plans shall be submitted for acknowledgment under the provisions of ORS 197.251 and 197.274. Upon acknowledgment of Metro's regional resource functional plan, local governments within Metro's jurisdiction shall apply the requirements of the functional plan for regional resources rather than the requirements of this division.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0090

Riparian Corridors

(1) For the purposes of this rule, the following definitions apply:

(a) "Fish habitat" means those areas upon which fish depend in order to meet their requirements for spawning, rearing, food supply, and migration.

(b) "Riparian area" is the area adjacent to a river, lake, or stream, consisting of the area of transition from an aquatic ecosystem to a terrestrial ecosystem.

(c) "Riparian corridor" is a Goal 5 resource that includes the water areas, fish habitat, adjacent riparian areas, and wetlands within the riparian area boundary.

(d) "Riparian corridor boundary" is an imag-inary line that is a certain distance upland from the top bank, for example, as specified in section (5) of this rule.

(e) "Stream" is a channel such as a river or creek that carries flowing surface water, including perennial streams and intermittent streams with defined channels, and excluding man-made irrigation and drainage channels.

(f) "Structure" is a building or other major improvement that is built, constructed, or installed, not including minor improvements, such as fences, utility poles, flagpoles, or irrigation system components, that are not customarily regulated through zoning ordinances.

(g) "Top of bank" shall have the same meaning as "bankfull stage" defined in OAR 141-085-0010(2).

(h) "Water area" is the area between the banks of a lake, pond, river, perennial or fish-bearing intermittent stream, excluding man-made farm ponds.

(2) Local governments shall amend acknowledged plans in order to inventory riparian corridors and provide programs to achieve Goal 5 prior to or at the first periodic review following the effective date of this rule, except as provided in OAR 660-023-0250(5).

(3) Local governments shall inventory and determine significant riparian corridors by following either the safe harbor methodology described in section (5) of this rule or the standard inventory process described in OAR 660-023-0030 as modified by the requirements in section (4) of this rule. The local government may divide the riparian corridor into a series of stream sections (or reaches) and regard these as individual resource sites.

(4) When following the standard inventory process in OAR 660-023-0030, local governments shall collect information regarding all water areas, fish habitat, riparian areas, and wetlands within riparian corridors. Local governments may postpone determination of the precise location of the riparian area on lands designated for farm or forest use until receipt of applications for local permits for uses that would conflict with these resources. Local governments are encouraged, but not required, to conduct field investigations to verify the location, quality, and quantity of resources within the riparian corridor. At a minimum, local governments shall consult the following sources, where available, in order to inventory riparian corridors along rivers, lakes, and streams within the jurisdiction:

(a) Oregon Department of Forestry stream classification maps;

(b) United States Geological Service (USGS) 7.5 minute quadrangle maps;

(c) National Wetlands Inventory maps;

(d) Oregon Department of Fish and Wildlife (ODFW) maps indicating fish habitat;

(e) Federal Emergency Management Agency (FEMA) flood maps; and

(f) Aerial photographs.

(5) As a safe harbor in order to address the requirements under OAR 660-023-0030, a local government may determine the boundaries of significant riparian corridors within its jurisdiction using a standard setback distance from all fish-bearing lakes and streams shown on the documents listed in subsections (a) through (f) of section (4) of this rule, as follows:

(a) Along all streams with average annual stream flow greater than 1,000 cubic feet per second (cfs) the riparian corridor boundary shall be 75 feet upland from the top of each bank.

(b) Along all lakes, and fish-bearing streams with average annual stream flow less than 1,000 cfs, the riparian corridor boundary shall be 50 feet from the top of bank.

(c) Where the riparian corridor includes all or portions of a significant wetland as set out in OAR 660-023-0100, the standard distance to the riparian corridor boundary shall be measured from, and include, the upland edge of the wetland.

(d) In areas where the top of each bank is not clearly defined, or where the predominant terrain consists of steep cliffs, local governments shall apply OAR 660-023-0030 rather than apply the safe harbor provisions of this section.

(6) Local governments shall develop a program to achieve Goal 5 using either the safe harbor described in section (8) of this rule or the standard Goal 5 ESEE process in OAR 660-023-0040 and 660-023-0050 as modified by section (7) of this rule.

(7) When following the standard ESEE process in OAR 660-023-0040 and 660-023-0050, a local government shall comply with Goal 5 if it identifies at least the following activities as conflicting uses in riparian corridors:

(a) The permanent alteration of the riparian corridor by placement of structures or impervious surfaces, except for:

(A) Water-dependent or water-related uses; and

(B) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area; and

(b) Removal of vegetation in the riparian area, except:

(A) As necessary for restoration activities, such as replacement of vegetation with native riparian species;

(B) As necessary for the development of water-related or water-dependent uses; and

(C) On lands designated for agricultural or forest use outside UGBs.

(8) As a safe harbor in lieu of following the ESEE process requirements of OAR 660-023-0040 and 660-023-0050, a local government may adopt an ordinance to protect a significant riparian corridor as follows:

(a) The ordinance shall prevent permanent alteration of the riparian area by grading or by the placement of structures or impervious surfaces, except for the following uses, provided they are designed and constructed to minimize intrusion into the riparian area:

(A) Streets, roads, and paths;

(B) Drainage facilities, utilities, and irrigation pumps;

(C) Water-related and water-dependent uses; and

(D) Replacement of existing structures with structures in the same location that do not disturb additional riparian surface area.

(b) The ordinance shall contain provisions to control the removal of riparian vegetation, except that the ordinance shall allow:

(A) Removal of non-native vegetation and replacement with native plant species; and

(B) Removal of vegetation necessary for the development of water-related or water-dependent uses;

(c) Notwithstanding subsection (b) of this section, the ordinance need not regulate the removal of vegetation in areas zoned for farm or forest uses pursuant to statewide Goals 3 or 4;

(d) The ordinance shall include a procedure to consider hardship variances, claims of map error, and reduction or removal of the restrictions under subsections (a) and (b) of this section for any existing lot or parcel demonstrated to have been rendered not buildable by application of the ordinance; and

(e) The ordinance may authorize the permanent alteration of the riparian area by placement of structures or impervious surfaces within the riparian corridor boundary established under subsection (5)(a) of this rule upon a demonstration that equal or better protection for identified resources will be ensured through restoration of riparian areas, enhanced buffer treatment, or similar measures. In no case shall such alterations occupy more than 50 percent of the width of the riparian area measured from the upland edge of the corridor.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0100

Wetlands

(1) For purposes of this rule, a "wetland" is an area that is inundated or saturated by surface water or ground water 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.

(2) Local governments shall amend acknowledged plans and land use regulations prior to or at periodic review to address the requirements of this division, as set out in OAR 660-023-0250(5) through (7). The standard inventory process requirements in OAR 660-023-0030 do not apply to wetlands. Instead, local governments shall follow the requirements of section (3) of this rule in order to inventory and determine significant wetlands.

(3) For areas inside urban growth boundaries (UGBs) and urban unincorporated communities (UUCs), local governments shall:

(a) Conduct a local wetlands inventory (LWI) using the standards and procedures of OAR 141-086-0110 through 141-086-0240 and adopt the LWI as part of the comprehensive plan or as a land use regulation; and

(b) Determine which wetlands on the LWI are "significant wetlands" using the criteria adopted by the Division of State Lands (DSL) pursuant to ORS 197.279(3)(b) and adopt the list of significant wetlands as part of the comprehensive plan or as a land use regulation.

(4) For significant wetlands inside UGBs and UUCs, a local government shall:

(a) Complete the Goal 5 process and adopt a program to achieve the goal following the require-ments of OAR 660-023-0040 and 660-023-0050; or

(b) Adopt a safe harbor ordinance to protect significant wetlands consistent with this subsection, as follows:

(A) The protection ordinance shall place restrictions on grading, excavation, placement of fill, and vegetation removal other than perimeter mowing and other cutting necessary for hazard prevention; and

(B) The ordinance shall include a variance procedure to consider hardship variances, claims of map error verified by DSL, and reduction or removal of the restrictions under paragraph (A) of this subsection for any lands demonstrated to have been rendered not buildable by application of the ordinance.

(5) For areas outside UGBs and UUCs, local governments shall either adopt the statewide wetland inventory (SWI; see ORS 196.674) as part of the local comprehensive plan or as a land use regulation, or shall use a current version for the purpose of section (7) of this rule.

(6) For areas outside UGBs and UUCs, local governments are not required to amend acknowledged plans and land use regulations in order to determine significant wetlands and complete the Goal 5 process. Local governments that choose to amend acknowledged plans for areas outside UGBs and UUCs in order to inventory and protect significant wetlands shall follow the requirements of sections (3) and (4) of this rule.

(7) All local governments shall adopt land use regulations that require notification of DSL concerning applications for development permits or other land use decisions affecting wetlands on the inventory, as per ORS 227 .350 and 215.418, or on the SWI as provided in section (5) of this rule.

(8) All jurisdictions may inventory and protect wetlands under the procedures and requirements for wetland conservation plans adopted pursuant to ORS 196.668 et seq. A wetlands conservation plan approved by the director of DSL shall be deemed to comply with Goal 5 (ORS 197.279(1)).

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0110

Wildlife Habitat

(1) For purposes of this rule, the following definitions apply:

(a) "Documented" means that an area is shown on a map published or issued by a state or federal agency or by a professional with demonstrated expertise in habitat identification.

(b) "Wildlife habitat" is an area upon which wildlife depend in order to meet their requirements for food, water, shelter, and reproduction. Examples include wildlife migration corridors, big game winter range, and nesting and roosting sites.

(2) Local governments shall conduct the inventory process and determine significant wildlife habitat as set forth in OAR 660-023-0250(5) by following either the safe harbor methodology described in section (4) of this rule or the standard inventory process described in OAR 660-023-0030.

(3) When gathering information regarding wildlife habitat under the standard inventory process in OAR 660-023-0030(2), local governments shall obtain current habitat inventory information from the Oregon Department of Fish and Wildlife (ODFW), and other state and federal agencies. These inventories shall include at least the following:

(a) Threatened, endangered, and sensitive wildlife species habitat information;

(b) Sensitive bird site inventories; and

(c) Wildlife species of concern and/or habitats of concern identified and mapped by ODFW (e.g., big game winter range and migration corridors, golden eagle and prairie falcon nest sites, and pigeon springs).

(4) Local governments may determine wildlife habitat significance under OAR 660-023-0040 or apply the safe harbor criteria in this section. Under the safe harbor, local governments may determine that "wildlife" does not include fish, and that significant wildlife habitat is only those sites where one or more of the following conditions exist:

(a) The habitat has been documented to perform a life support function for a wildlife species listed by the federal government as a threatened or endangered species or by the state of Oregon as a threatened, endangered, or sensitive species;

(b) The habitat has documented occurrences of more than incidental use by a species described in subsection (a) of this section;

(c) The habitat has been documented as a sensitive bird nesting, roosting, or watering resource site for osprey or great blue herons pursuant to ORS 527.710 (Oregon Forest Practices Act) and OAR 629-024-0700 (Forest Practices Rules);

(d) The habitat has been documented to be essential to achieving policies or population objectives specified in a wildlife species management plan adopted by the Oregon Fish and Wildlife Commission pursuant to ORS Chapter 496; or

(e) The area is identified and mapped by ODFW as habitat for a wildlife species of concern and/or as a habitat of concern (e.g., big game winter range and migration corridors, golden eagle and prairie falcon nest sites, or pigeon springs).

(5) For certain threatened or endangered species sites, publication of location information may increase the threat of habitat or species loss. Pursuant to ORS 192.501(13), local governments may limit publication, display, and availability of location information for such sites. Local governments may adopt inventory maps of these areas, with procedures to allow limited availability to property owners or other specified parties.

(6) As set out in OAR 660-023-0250(5), local governments shall develop programs to protect wildlife habitat following the standard procedures and requirements of OAR 660-023-0040 and 660-023-0050. Local governments shall coordinate with appropriate state and federal agencies when adopting programs intended to protect threatened, endangered, or sensitive species habitat areas.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 297.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0120

Federal Wild and Scenic Rivers

(1) At each periodic review, local governments shall amend acknowledged plans and land use regulations to address any federal Wild and Scenic River (WSR) and associated corridor established by the federal government that is not addressed by the acknowledged plan. The standards and procedures of OAR 660-023-0030 through 660-023-0050 apply to WSRs, except as provided in this rule.

(2) Local governments shall not inventory WSRs using the standard process under OAR 660-023-0030, except that local governments shall follow the requirements of OAR 660-023-0030(5) by designating all WSRs as significant Goal 5 resources.

(3) A local government may delay completion of OAR 660-023-0040 and 660-023-0050 for a WSR until the federal government adopts a management plan for the WSR. Prior to the federal government adoption of a management plan, the local govern-ment shall notify the federal government of proposed development and changes of land use within the interim WSR corridor.

(4) Prior to or at the first periodic review following adoption of a management plan by the federal government for an established WSR, the local government shall adopt a program to protect the WSR and associated corridor by following the ESEE standards and procedures of OAR 660-023-0040 and 660-023-0050. The impact area determined under OAR 660-023-0040(3) shall be the WSR corridor that is established by the federal government. Notwithstanding the provisions of OAR 660-023-0040(5), the local program shall be consistent with the federal management plan.

(5) For any lands in a designated WSR corridor that are also within the impact area of a designated Oregon Scenic Waterway, the local government may apply the requirements of OAR 660-023-0130 rather than the applicable requirements of this rule in order to develop a program to achieve Goal 5.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0130

Oregon Scenic Waterways

(1) At each periodic review, local governments shall amend acknowledged plans and land use regulations to address any Oregon Scenic Waterway (OSW) and associated corridor that is not addressed by the acknowledged plan. The standards and procedures of OAR 660-023-0030 through 660-023-0050 apply to OSWs, except as provided in this rule.

(2) Local governments shall not inventory OSWs following all the steps of the standard inventory process under OAR 660-023-0030. Instead, local governments shall follow only the requirements of OAR 660-023-0030(5) by designating OSWs as significant Goal 5 resources.

(3) A local government may delay completion of the Goal 5 process (OAR 660-023-0040 and 660-023-0050) for an OSW until the Oregon Parks and Recreation Commission (OPRC) adopts a management plan for the OSW. Prior to the OPRC adoption of a management plan for the OSW, the local government shall:

(a) Notify the Oregon Parks and Recreation Department (OPRD) of proposed developments and changes of land use on land within the interim OSW corridor; and

(b) Inform landowners who apply to the local government for development approval or changes of land use within the OSW corridor of their notice obligations under ORS 390.845.

(4) Prior to or at the first periodic review following adoption of a management plan by the OPRC for an established OSW, the local government shall adopt a Goal 5 program for the OSW and associated corridor by following either the ESEE standards and procedures of OAR 660-023-0040 and 660-023-0050 or the safe harbor provisions in section (5) of this rule. The impact area determined under OAR 660-023-0040(3) shall be the scenic waterway and adjacent lands as set forth in ORS 390.805(2) and (3). Notwithstanding the provisions of OAR 660-023-0040(5), the local program for the OSW shall be consistent with the manage-ment plan adopted by OPRC.

(5) As a safe harbor, a local government may adopt only those plan and implementing ordinance provisions necessary to carry out the management plan adopted by OPRC rather than follow the ESEE standards and procedures of OAR 660-023-0040 and 660-023-0050.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0140

Groundwater Resources

(1) For purposes of this rule, the following definitions apply:

(a) "Delineation" is a determination that has been certified by the Oregon Health Division pursuant to OAR 333-061-0057, regarding the extent, orientation, and boundary of a wellhead protection area, considering such factors as geology, aquifer characteristics, well pumping rates, and time of travel.

(b) "Groundwater" is any water, except capillary moisture, beneath the land surface or beneath the bed of any stream, lake, reservoir, or other body of surface water.

(c) "Protect significant groundwater resources" means to adopt land use programs to help ensure that reliable groundwater is available to areas planned for development and to provide a reasonable level of certainty that the carrying capacity of groundwater resources will not be exceeded.

(d) "Public water system" is a system supplying water for human consumption that has four or more service connections, or a system supplying water to a public or commercial establishment that operates a total of at least 60 days per year and that is used by 10 or more individuals per day.

(e) "Wellhead protection area" is the surface and subsurface area surrounding a water well, spring, or wellfield, supplying a public water system, through which contaminants are reason-ably likely to move toward and reach that water well, spring, or wellfield.

(2) Local governments shall amend acknowledged plans prior to or at each periodic review in order to inventory and protect significant groundwater resources under Goal 5 only as provided in sections (3) through (5) of this rule. Goal 5 does not apply to other groundwater areas, although other statewide Goals, especially Goals 2, 6, and 11, apply to land use decisions concerning such groundwater areas. Significant groundwater resources are limited to:

(a) Critical groundwater areas and ground-water-limited areas designated by the Oregon Water Resources Commission (OWRC), subject to the requirements in section (3) of this rule applied in conjunction with the requirements of OAR 660-023-0030 through 660-023-0050; and

(b) Wellhead protection areas, subject to the requirements in sections (4) and (5) of this rule instead of the requirements in OAR 660-023-0030 through 660-023-0050.

(3) Critical groundwater areas and groundwater-limited areas designated by order of the OWRC pursuant to ORS 537.505 et seq. are significant groundwater resources. Following designation by OWRC, and in coordination with the Oregon Water Resources Department (WRD), local plans shall declare such areas as significant groundwater resources as per OAR 660-022-0030(5). Following the requirements of OAR 660-023-0040 and 660-023-0050 and this rule, local governments shall develop programs to protect these significant groundwater resources.

(4) A local government or water provider may delineate a wellhead protection area for wells or wellfields that serve lands within its jurisdiction. For the delineation of wellhead protection areas, the

standards and procedures in OAR Chapter 333, Division 61 (Oregon Health Division rules) shall apply rather than the standards and procedures of OAR 660-023-0030.

(5) A wellhead protection area is a significant groundwater resource only if the area has been so delineated and either:

(a) The public water system served by the wellhead area has a service population greater than 10,000 or has more than 3,000 service connections and relies on groundwater from the wellhead area as the primary or secondary source of drinking water; or

(b) The wellhead protection area is determined to be significant under criteria established by a local government, for the portion of the wellhead protection area within the jurisdiction of the local government.

(6) Local governments shall develop programs to resolve conflicts with wellhead protection areas described under section (5) of this rule. In order to resolve conflicts with wellhead protection areas, local governments shall adopt comprehensive plan provisions and land use regulations, consistent with all applicable statewide goals, that:

(a) Reduce the risk of contamination of groundwater, following the standards and requirements of OAR Chapter 340, Division 40; and

(b) Implement wellhead protection plans certified by the Oregon Department of Environ-mental Quality (DEQ) under OAR 340-040-0180.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0150

Approved Oregon Recreation Trails

(1) For purposes of this rule, "recreation trail" means an Oregon Recreation Trail designated by rule adopted by the Oregon Parks and Recreation Commission (OPRC).

(2) Recreation trails are designated by OPRC in cooperation with local governments and private land owners. Local governments are not required to inventory recreation trails under OAR 660-023-0030. Instead, local governments shall designate all recreation trails designated by OPRC as significant Goal 5 resources. At each periodic review, local governments shall amend acknowledged plans to recognize any recreation trail designated by OPRC subsequent to acknowledgment or a previous periodic review.

(3) Local governments are not required to amend acknowledged plans or land use regulations in order to supplement OPRC protection of recreation trails. If a local government chooses to supplement OPRC protection, it shall follow the requirements of OAR 660-023-0040 and 660-023-0050.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0160

Natural Areas

(1) For purposes of this rule, "natural areas" are areas listed in the Oregon State Register of Natural Heritage Resources.

(2) At periodic review, local governments shall consider information about natural areas not addressed at acknowledgment or in previous periodic reviews. Local governments shall inventory such areas as significant and develop a program to achieve the goal following the standard Goal 5 process in OAR 660-023-0040 and 660-023-0050.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0170

Wilderness Areas

(1) For purposes of this rule, "wilderness areas" are those areas designated as wilderness by the federal government.

(2) Local governments are not required to inventory wilderness areas using the procedures of OAR 660-023-0030, except that local governments shall list all federally designated wilderness areas as significant Goal 5 resources as provided under OAR 660-023-0030(5).

(3) At periodic review, local governments shall amend acknowledged plans to recognize any wilderness areas designated after the last periodic review or acknowledgment.

(4) A local government need not complete the Goal 5 process in OAR 660-023-0040 and 660-023-0050 for wilderness areas unless it chooses to provide additional protection for the wilderness area, such as the regulation of conflicting uses in an impact area adjacent to the wilderness area.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0180

Mineral and Aggregate Resources

(1) For purposes of this rule, the following definitions apply:

(a) "Aggregate resources" are naturally occurring concentrations of stone, rock, sand and gravel, decomposed granite, lime, pumice, cinders, and other naturally occurring solid materials used in road building.

(b) "Conflicting use" is a use or activity that is subject to land use regulations and that would interfere with, or be adversely affected by, mining or processing activities at a significant mineral or aggregate resource site (as specified in sections 4(b) and (5) of this rule).

(c) "Existing site" is a significant aggregate site that is lawfully operating, or is included on an inventory in an acknowledged plan, on the applicable date of this rule.

(d) "Expansion area" is an aggregate mining area contiguous to an existing site.

(e) "Mining" is the extraction and processing of mineral or aggregate resources, in the manner provided under ORS 215.298(3).

(f) "Minimize a conflict" means to reduce an identified conflict to a level that is no longer significant. For those types of conflicts addressed by local, state, or federal standards (such as the Department of Environmental Quality standards for noise and dust levels) to "minimize a conflict" means to ensure conformance to the applicable standard.

(g) "Mining area" is the area of a site within which mining is permitted or proposed, excluding undisturbed buffer areas or areas on a parcel where mining is not authorized.

(h) "Processing" means the activities described in ORS 517.750(11).

(i) "Protect" means to adopt land use regulations for a significant mineral or aggregate site in order to authorize mining of the site and to limit or prohibit new conflicting uses within the impact area of the site.

(j) "Width of aggregate layer" means the depth of the water-lain deposit of sand, stones, and pebbles of sand-sized fraction or larger, minus the depth of the topsoil and nonaggregate overburden.

(k) "Willamette Valley" means Benton, Clackamas, Columbia, Linn, Marion, Multnomah, Polk, Washington, and Yamhill counties and the portion of Lane County east of the summit of the Coast Range.

(2) Local governments are not required to amend acknowledged inventories or plans with regard to mineral and aggregate resources except in response to an application for a PAPA, or at periodic review as specified in OAR 660-023-0180(7). The requirements of this rule either modify, supplement, or supersede the requirements of the standard Goal 5 process in OAR 660-023-0030 through 660-023-0050, as follows:

(a) A local government may inventory mineral and aggregate resources throughout its jurisdiction, or in a portion of its jurisdiction. When a local government conducts an inventory of mineral and aggregate sites in all or a portion of its jurisdiction, it shall follow the requirements of OAR 660-023-0030 as modified by subsection (b) of this section. When a local government is following the inventory process for a mineral or aggregate resource site filed under a PAPA, it shall follow only the applicable requirements of OAR 660-023-0030, except as provided in sections (3) and (6) of this rule;

(b) Local governments shall apply the criteria in section (3) of this rule rather than OAR 660-023-0030(4) in determining whether an aggregate resource site is significant;

(c) Local governments shall follow the requirements of section (4) of this rule in deciding whether to authorize the mining of a significant mineral or aggregate resource site; and

(d) For significant mineral and aggregate sites where mining is allowed, local governments shall decide on a program to protect the site from new off-site conflicting uses by following the standard ESEE process in OAR 660-023-0040 and 660-023-0050 with regard to such uses.

(3) An aggregate resource site shall be considered significant if adequate information regarding the quantity, quality, and location of the resource demonstrates that the site meets any one of the criteria in subsections (a) through (c) of this section, except as provided in subsection (d) of this section:

(a) A representative set of samples of aggregate material in the deposit on the site meets Oregon Department of Transportation (ODOT) specifications for base rock for air degradation, abrasion, and sodium sulfate soundness, and the estimated amount of material is more than 2,000,000 tons in the Willamette Valley, or 100,000 tons outside the Willamette Valley;

(b) The material meets local government standards establishing a lower threshold for significance than subsection (a) of this section; or

(c) The aggregate site is on an inventory of significant aggregate sites in an acknowledged plan on the applicable date of this rule.

(d) Notwithstanding subsections (a) through (c) of this section, except for an expansion area of an existing site if the operator of the existing site on March 1, 1996 had an enforceable property interest in the expansion area on that date, an aggregate site is not significant if the criteria in either paragraphs (A) or (B) of this subsection apply:

(A) More than 35 percent of the proposed mining area consists of soil classified as Class I on Natural Resource and Conservation Service (NRCS) maps on the date of this rule; or

(B) More than 35 percent of the proposed mining area consists of soil classified as Class II, or of a combination of Class II and Class I or Unique soil on NRCS maps available on the date of this rule, unless the average width of the aggregate layer within the mining area exceeds:

(i) 60 feet in Washington, Multnomah, Marion, Columbia, and Lane counties;

(ii) 25 feet in Polk, Yamhill, and Clackamas counties; or

(iii) 17 feet in Linn and Benton counties.

(4) For significant mineral and aggregate sites, local governments shall decide whether mining is permitted. For a PAPA application involving a significant aggregate site, the process for this decision is set out in subsections (a) through (g) of this section. For a PAPA involving a significant aggregate site, a local government must complete the process within 180 days after receipt of a complete application

that is consistent with section (6) of this rule, or by the earliest date after 180 days allowed by local charter. The process for reaching decisions about aggregate mining is as follows:

(a) The local government shall determine an impact area for the purpose of identifying conflicts with proposed mining and processing activities. The impact area shall be large enough to include uses listed in subsection (b) of this section and shall be limited to 1,500 feet from the boundaries of the mining area, except where factual information indicates significant potential conflicts beyond this distance. For a proposed expansion of an existing aggregate site, the impact area shall be measured from the perimeter of the proposed expansion area rather than the boundaries of the existing aggregate site and shall not include the existing aggregate site.

(b) The local government shall determine existing or approved land uses within the impact area that will be adversely affected by proposed mining operations and shall specify the predicted conflicts. For purposes of this section, "approved land uses" are dwellings allowed by a residential zone on existing platted lots and other uses for which conditional or final approvals have been granted by the local government. For determination of conflicts from proposed mining of a significant aggregate site, the local government shall limit its consideration to the following:

(A) Conflicts due to noise, dust, or other discharges with regard to those existing and approved uses and associated activities (e.g., houses and schools) that are sensitive to such discharges;

(B) Potential conflicts to local roads used for access and egress to the mining site within one mile of the entrance to the mining site unless a greater distance is necessary in order to include the intersection with the nearest arterial identified in the local transportation plan. Conflicts shall be determined based on clear and objective standards regarding sight distances, road capacity, cross section elements, horizontal and vertical alignment, and similar items in the transportation plan and implementing ordinances. Such standards for trucks associated with the mining operation shall be equivalent to standards for other trucks of equivalent size, weight, and capacity that haul other materials;

(C) Safety conflicts with existing public airports due to bird attractants, i.e., open water impoundments. This paragraph shall not apply after the effective date of commission rules adopted pursuant to Chapter 285, Oregon Laws 1995;

(D) Conflicts with other Goal 5 resource sites within the impact area that are shown on an acknowledged list of significant resources and for which the requirements of Goal 5 have been completed at the time the PAPA is initiated;

(E) Conflicts with agricultural practices; and

(F) Other conflicts for which consideration is necessary in order to carry out ordinances that supersede Oregon Department of Geology and Mineral Industries (DOGAMI) regulations pursuant to ORS 517.780;

(c) The local government shall determine reasonable and practicable measures that would minimize the conflicts identified under subsection (b) of this section. To determine whether proposed measures would minimize conflicts to agricultural practices, the requirements of ORS 215.296 shall be followed rather than the requirements of this section. If reasonable and practicable measures are identified to

minimize all identified conflicts, mining shall be allowed at the site and subsection (d) of this section is not applicable. If identified conflicts cannot be minimized, subsection (d) of this section applies.

(d) The local government shall determine any significant conflicts identified under the requirements of subsection (c) of this section that cannot be minimized. Based on these conflicts only, local government shall determine the ESEE consequences of either allowing, limiting, or not allowing mining at the site. Local governments shall reach this decision by weighing these ESEE consequences, with consideration of the following:

(A) The degree of adverse effect on existing land uses within the impact area;

(B) Reasonable and practicable measures that could be taken to reduce the identified adverse effects; and

(C) The probable duration of the mining operation and the proposed post-mining use of the site.

(e) Where mining is allowed, the plan and implementing ordinances shall be amended to allow such mining. Any required measures to minimize conflicts, including special conditions and procedures regulating mining, shall be clear and objective. Additional land use review (e.g., site plan review), if required by the local government, shall not exceed the minimum review necessary to assure compliance with these requirements and shall not provide opportunities to deny mining for reasons unrelated to these requirements, or to attach additional approval requirements, except with regard to mining or processing activities:

(A) For which the PAPA application does not provide information sufficient to determine clear and objective measures to resolve identified conflicts;

(B) Not requested in the PAPA application; or

(C) For which a significant change to the type, location, or duration of the activity shown on the PAPA application is proposed by the operator.

(f) Where mining is allowed, the local government shall determine the post-mining use and provide for this use in the comprehensive plan and land use regulations. For significant aggregate sites on Class I, II and Unique farmland, local governments shall adopt plan and land use regulations to limit post-mining use to farm uses under ORS 215.203, uses listed under ORS 215.213(1) or 215.283(1), and fish and wildlife habitat uses, including wetland mitigation banking. Local governments shall coordinate with DOGAMI regarding the regulation and reclamation of mineral and aggregate sites, except where exempt under ORS 517.780.

(g) Local governments shall allow a currently approved aggregate processing operation at an existing site to process material from a new or expansion site without requiring a reauthorization of the existing processing operation unless limits on such processing were established at the time it was approved by the local government.

(5) Local governments shall follow the standard ESEE process in OAR 660-023-0040 and 660-023-0050 to determine whether to allow, limit, or prevent new conflicting uses within the impact area of a

significant mineral and aggregate site. (This requirement does not apply if, under section (4) of this rule, the local government decides that mining will not be authorized at the site.)

(6) In order to determine whether information in a PAPA submittal concerning an aggregate site is adequate, local government shall follow the requirements of this section rather than OAR 660-023-0030(3). An application for a PAPA concerning a significant aggregate site shall be adequate if it includes:

(a) Information regarding quantity, quality, and location sufficient to determine whether the standards and conditions in section (3) of this rule are satisfied;

(b) A conceptual site reclamation plan;

(NOTE: Final approval of reclamation plans resides with DOGAMI rather than local governments, except as provided in ORS 517.780)

(c) A traffic impact assessment within one mile of the entrance to the mining area pursuant to section (4)(b)(B) of this rule;

(d) Proposals to minimize any conflicts with existing uses preliminarily identified by the applicant within a 1,500 foot impact area; and

(e) A site plan indicating the location, hours of operation, and other pertinent information for all proposed mining and associated uses.

(7) Local governments shall amend the comprehensive plan and land use regulations to include procedures and requirements consistent with this rule for the consideration of PAPAs concerning aggregate resources. Until such local regulations are adopted, the procedures and requirements of this rule shall be directly applied to local government consideration of a PAPA concerning mining authorization, unless the local plan contains specific criteria regarding the consideration of a PAPA proposing to add a site to the list of significant aggregate sites, provided:

(a) Such regulations were acknowledged subsequent to 1989; and

(b) Such regulations shall be amended to conform to the requirements of this rule at the next scheduled periodic review, except as provided under OAR 660-023-0250(7).

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225- ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0190

Energy Sources

(1) For purposes of this rule,

(a) "Energy source" includes naturally occurring locations, accumulations, or deposits of one or more of the following resources used for the generation of energy: natural gas, surface water (i.e., dam sites), geothermal, solar, and wind areas. Energy sources applied for or approved through the Oregon Energy Facility Siting Council (EFSC) or the Federal Energy Regulatory Commission (FERC) shall be deemed significant energy sources for purposes of Goal 5.

(b) "Protect," for energy sources, means to adopt plan and land use regulations for a significant energy source that limit new conflicting uses within the impact area of the site and authorize the present or future development or use of the energy source at the site.

(2) In accordance with OAR 660-023-0250(5), local governments shall amend their acknowledged comprehensive plans to address energy sources using the standards and procedures in OAR 660-023-0030 through 660-023-0050. Where EFSC or FERC regulate a local site or an energy facility that relies on a site specific energy source, that source shall be considered a significant energy source under OAR 660-023-0030. Alternatively, local governments may adopt a program to evaluate conflicts and develop a protection program on a case-by-case basis, i.e., upon application to develop an individual energy source, as follows:

(a) For proposals involving energy sources under the jurisdiction of EFSC or FERC, the local government shall comply with Goal 5 by amending its comprehensive plan and land use regulations to implement the EFSC or FERC decision on the proposal as per ORS 469.503; and

(b) For proposals involving energy sources not under the jurisdiction of EFSC or FERC, the local government shall follow the standards and procedures of OAR 660-023-0030 through 660-023-0050.

(3) Local governments shall coordinate planning activities for energy sources with the Oregon Department of Energy.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0200

Historic Resources

(1) For purposes of this rule, the following definitions apply:

(a) "Designation" is a decision by a local government declaring that a historic resource is "significant" and including the resource on the list of significant historic resources.

(b) "Historic areas" are lands with buildings, structures, objects, sites, or districts that have local, regional, statewide, or national historic significance.

(c) "Historic resources" are those buildings, structures, objects, sites, or districts that have a relationship to events or conditions of the human past.

(d) "Historic resources of statewide significance" are buildings, structures, objects, sites, or districts listed in the National Register of Historic Places, and within approved national register historic districts pursuant to the National Historic Preservation Act of 1966 (PL 89-665; 16 U.S.C. 470).

(e) "Protect" means to require local government review of applications for demolition, removal, or major exterior alteration of a historic resource.

(2) Local governments are not required to amend acknowledged plans or land use regulations in order to provide new or amended inventories or programs regarding historic resources, except as specified in this rule. The requirements of the standard Goal 5 process (see OAR 660-023-0030 through 660-023-0050) in conjunction with the requirements of this rule apply when local governments choose to amend acknowledged historic preservation plans and regulations. However, the sequence of steps in the standard process is not recommended, as per section (3) of this rule. The provisions in section (3) of this rule are advisory only. Sections (4) through (9) of this rule are mandatory for all local governments, except where the rule provides recommended or optional criteria.

(3) Local comprehensive plans should foster and encourage the preservation, management, and enhancement of structures, resources, and objects of historic significance within the jurisdiction in a manner conforming with, but not limited by, the provisions of ORS 358.605. In developing local historic preservation programs, local governments should follow the recommendations in the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation. Where possible, local governments should develop a local historic context statement and adopt a historic preservation plan and a historic preservation ordinance before commencement of local historic inventories.

(4) Local governments shall provide broad public notice prior to the collection of information about historic resources. Local governments shall notify landowners about opportunities to partic-ipate in the inventory process. Local governments may delegate the determination of significant historic sites to a local planning commission or historic resources commission. The determination of significance should be based on the National Register Criteria for Evaluation or the Secretary of the Interior's Standards for Evaluation.

(5) Local governments shall adopt or amend the list of significant historic resource sites (i.e., "designate" such sites) as a land use regulation. Local governments shall allow owners of inventoried historic resources to refuse historic resource designation at any time prior to adoption of the designation and shall not include a site on a list of significant historic resources if the owner of the property objects to its designation.

(6) The local government shall allow a property owner to remove from the property a historic property designation that was imposed on the property by the local government.

(7) Local governments are not required to apply the ESEE process in order to determine a program to protect historic resources. Rather, local governments are encouraged to adopt historic preservation regulations regarding the demolition, removal, or major exterior alteration of all designated historic resources. Historic protection ordinances should be consistent with standards and guidelines recommended in the Standards and Guidelines for Archeology and Historic Preservation published by the U.S. Secretary of the Interior.

(8) Local governments shall protect all historic resources of statewide significance through local historic protection regulations, regardless of whether these resources are "designated" in the local plan.

(9) A local government shall not issue a permit for demolition or modification of a historic resource described under subsection (6) of this rule for at least 120 days from the date a property owner requests removal of historic resource designation from the property.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0220

Open Space

(1) For purposes of this rule, "open space" includes parks, forests, wildlife preserves, nature reservations or sanctuaries, and public or private golf courses.

(2) Local governments are not required to amend acknowledged comprehensive plans in order to identify new open space resources. If local governments decide to amend acknowledged plans in order to provide or amend open space inven-tories, the requirements of OAR 660-023-0030 through 660-023-0050 shall apply, except as set forth in section (3) of this rule.

(3) Local governments may adopt a list of significant open space resource sites as an open space acquisition program. Local governments are not required to apply the requirements of OAR 660-023-0030 through 660-023-0050 to such sites unless land use regulations are adopted to protect such sites prior to acquisition.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0230

Scenic Views and Sites

(1) For purposes of this rule, "scenic views and sites" are lands that are valued for their aesthetic appearance.

(2) Local governments are not required to amend acknowledged comprehensive plans in order to identify scenic views and sites. If local govern-ments decide to amend acknowledged plans in order to provide or amend inventories of scenic resources, the requirements of OAR 660-023-0030 through 660-023-0050 shall apply.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0240

Relationship of Goal 5 to Other Goals

(1) The requirements of Goal 5 do not apply to the adoption of measures required by Goals 6 and 7. However, to the extent that such measures exceed the requirements of Goals 6 or 7 and affect a Goal 5 resource site, the local government shall follow all applicable steps of the Goal 5 process.

(2) The requirements of Goals 15, 16, 17, and 19 shall supersede requirements of this division for natural resources that are also subject to and regulated under one or more of those goals. However, local governments may rely on a Goal 5 inventory produced under OAR 660-023-0030 and other applicable inventory requirements of this division to satisfy the inventory requirements under Goal 17 for resource sites subject to Goal 17.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96

660-023-0250

Applicability

(1) This division replaces OAR 660, Division 16, except with regard to cultural resources, and certain PAPAs and periodic review work tasks described in sections (2) and (4) of this rule. Local governments shall follow the procedures and requirements of this division or OAR 660, Division 16, whichever is applicable, in the adoption or amendment of all plan or land use regulations pertaining to Goal 5 resources. The requirements of Goal 5 do not apply to land use decisions made pursuant to acknowledged comprehensive plans and land use regulations.

(2) The requirements of this division are applicable to PAPAs initiated on or after September 1, 1996. OAR 660, Division 16 applies to PAPAs initiated prior to September 1, 1996. For purposes of this section "initiated" means that the local government has deemed the PAPA application to be complete.

(3) Local governments are not required to apply Goal 5 in consideration of a PAPA unless the PAPA affects a Goal 5 resource. For purposes of this section, a PAPA would affect a Goal 5 resource only if:

(a) The PAPA creates or amends a resource list or a portion of an acknowledged plan or land use regulation adopted in order to protect a significant Goal 5 resource or to address specific requirements of Goal 5;

(b) The PAPA allows new uses that could be conflicting uses with a particular significant Goal 5 resource site on an acknowledged resource list; or

(c) The PAPA amends an acknowledged UGB and factual information is submitted demonstrating that a resource site, or the impact areas of such a site, is included in the amended UGB area.

(4) Consideration of a PAPA regarding a specific resource site, or regarding a specific provision of a Goal 5 implementing measure, does not require a local government to revise acknowledged

inventories or other implementing measures, for the resource site or for other Goal 5 sites, that are not affected by the PAPA, regardless of whether such inventories or provisions were acknowledged under this rule or under OAR 660, Division 16.

(5) Local governments are required to amend acknowledged plan or land use regulations at periodic review to address Goal 5 and the requirements of this division only if one or more of the following conditions apply, unless exempted by the director under section (7) of this rule:

(a) The plan was acknowledged to comply with Goal 5 prior to the applicability of OAR 660, Division 16, and has not subsequently been amended in order to comply with that division;

(b) The jurisdiction includes riparian corridors, wetlands, or wildlife habitat as provided under OAR 660-023-0090 through 660-023-0110, or aggregate resources as provided under OAR 660-023-0180; or

(c) New information is submitted at the time of periodic review concerning resource sites not addressed by the plan at the time of acknowledgement or in previous periodic reviews, except for historic, open space, or scenic resources.

(6) If a local government undertakes a Goal 5 periodic review task that concerns specific resource sites or specific Goal 5 plan or implementing measures, this action shall not by itself require a local government to conduct a new inventory of the affected Goal 5 resource category, or revise acknowledged plans or implementing measures for resource categories or sites that are not affected by the work task.

(7) The director may exempt a local government from a work task for a resource category required under section (5) of this rule. The director shall consider the following factors in this decision:

(a) Whether the plan and implementing ordinances for the resource category substantially comply with the requirements of this division; and

(b) The resources of the local government or state agencies available for periodic review, as set forth in ORS 197.633(3)(g).

(8) Local governments shall apply the requirements of this division to work tasks in periodic review work programs approved or amended under ORS 197.633(3)(g) after September 1, 1996. Local governments shall apply OAR 660, Division 16, to work tasks in periodic review work programs approved before September 1, 1996, unless the local government chooses to apply this division to one or more resource categories, and provided:

(a) The same division is applied to all work tasks concerning any particular resource category;

(b) All the participating local governments agree to apply this division for work tasks under the jurisdiction of more than one local government; and

(c) The local government provides written notice to the department. If application of this division will extend the time necessary to complete a work task, the director or the commission may consider extending the time for completing the work task as provided in OAR 660-025-0170.

Stat. Auth.: ORS 183 & ORS 197
Stats. Implemented: ORS 197.040 & ORS 197.225 - ORS 197.245
Hist.: LCDC 2-1996, f. 8-30-96, cert. ef. 9-1-96
