

# **ENVIRONMENTAL ASSESSMENT**

## **FISH LAKE INTERPRETIVE FACILITY**

WEST CASCADES

And

MCKENZIE PASS – SANTIAM PASS  
NATIONAL SCENIC BYWAYS

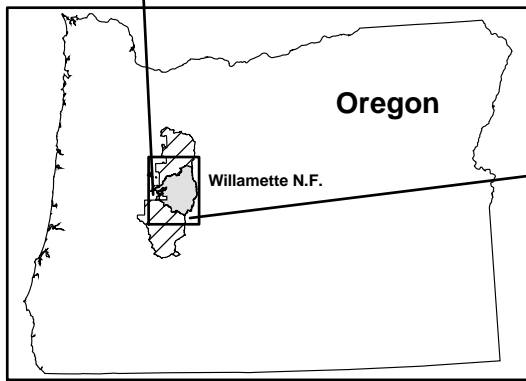
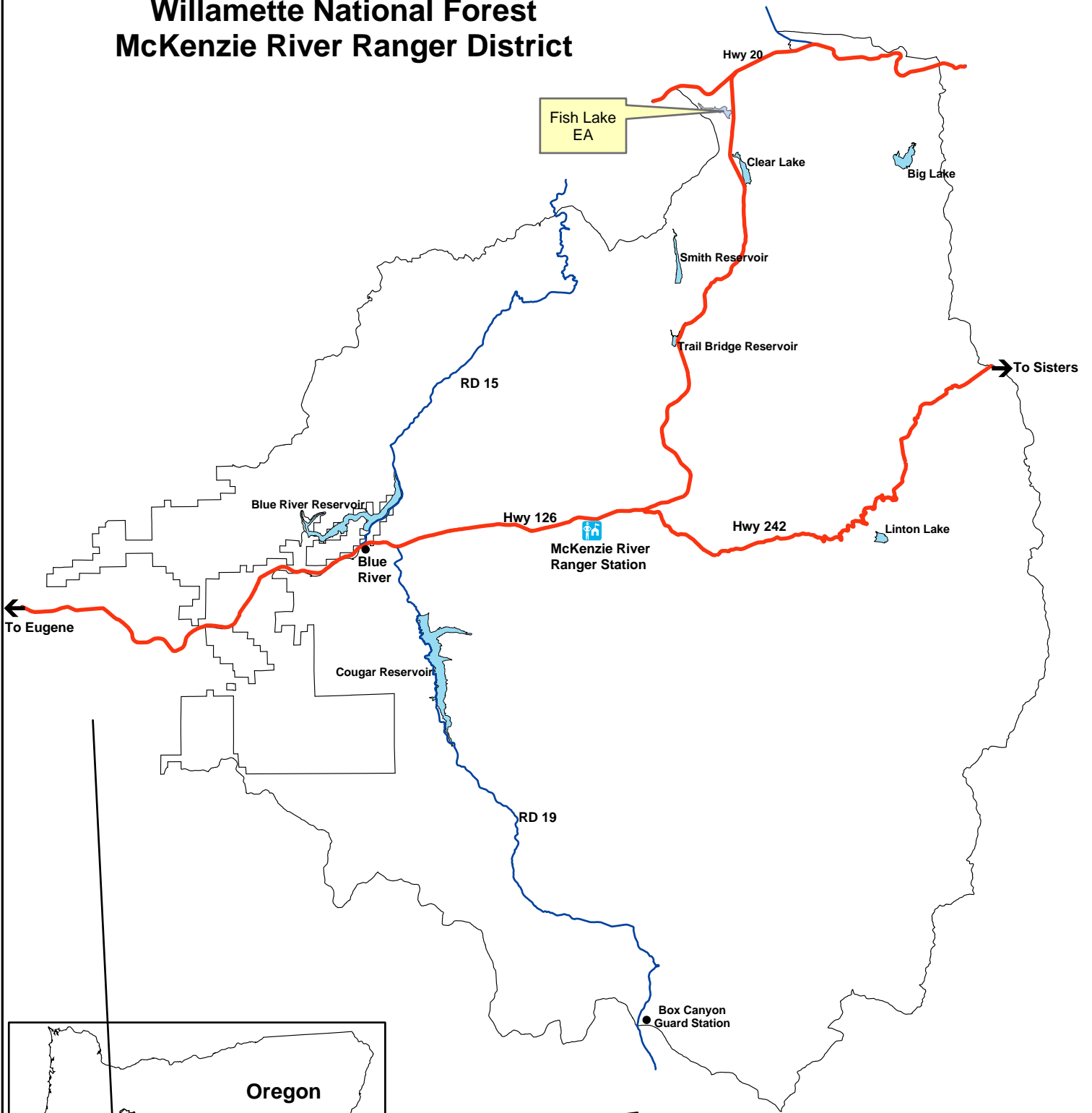
**Willamette National Forest**  
**McKenzie River Ranger District**

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# Willamette National Forest McKenzie River Ranger District



ENVIRONMENTAL ASSESSMENT  
Fish Lake Interpretive Facility  
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## I. PURPOSE AND NEED FOR ACTION

### A. Area Description and Location

The project is located on the McKenzie River Ranger District, along State Highway 126, on a common corridor segment of the West Cascades and McKenzie Pass – Santiam Pass National Scenic Byways. The location for the proposed Fish Lake Interpretive Facility is within Linn County, State of Oregon, McKenzie River Ranger District, of the Willamette National Forest, T 13 S., R 6 E., Sections 29, 30, and 31.

The Fish Lake Special Interest Area includes the historic Fish Lake Remount Depot and a portion of the Santiam Wagon Road Special Interest Area. Both of these features offer unique settings for visitors to explore the historical, cultural and natural resources of the area.

The Fish Lake Work Center, an active Forest Service administrative site, is situated within the historic Fish Lake Remount Depot, and utilizes many of its facilities. Fish Lake currently offers recreation opportunities via a developed campground situated on the eastern shore and a dispersed camping area located on the southeastern shore.

### B. Proposed Actions, Purpose and Need, and Decision to Be Made

#### **Purpose and Need**

Actions are proposed to develop an interpretive gateway facility to the historic Fish Lake Remount Depot.

There is a need to officially manage public entry into the Remount Depot to facilitate educating the public about the significance of the historic site, including its protection and preservation, and to control visitor flow.

The need for action was recommended in the McKenzie Pass – Santiam Pass Scenic Byway Management Strategy, 1993. Fish Lake was identified as a “Priority One” location to pursue redesign and development of interpretive facilities. The Fish Lake Special Interest Area Implementation Guide (2001) also recommended development of a gateway interpretive site adjacent to the Remount Depot to make historic features more visible and accessible to scenic byway visitors and onsite recreationists.

Actions proposed to develop a Fish Lake interpretive gateway facility may include:

- Replacement of existing or development of new ADA accessible toilet;
- Reconstruction of existing access roads to meet highway safety standards;
- Development of parking areas, pedestrian walkways, picnic facilities, interpretive sign kiosks, vehicle and pedestrian access controls;
- Restoration of lakeshore riparian areas;

Traffic flow reconfiguration and landscaping.

### **Decision to be Made**

The decision to be made from this Environmental Assessment is which of the alternatives, if any, best meets the purpose and need to locate and design an interpretive gateway facility to serve scenic byway visitors and area recreationists accessing the historic Fish Lake Remount Depot. The Ranger for the McKenzie River District has authority for this decision.

### **C. Forest Plan Direction and Desired Future Condition**

The proposed alternatives comply with the Willamette National Forest Land and Resource Management Plan, as amended by the Northwest Forest Plan, 1994 and 2001. The Forest-wide goals for recreation management state that a wide range of developed and dispersed recreation opportunities compatible with individual management area objectives are provided (FW-001). The Fish Lake Special Interest Area Implementation Guide (2001) recommended the proposed actions.

The desired future condition for a gateway interpretive facility at the Fish Lake Remount Depot, Santiam Wagon Road and Fish Lake includes: 1. Preservation and public enjoyment of the natural features is enhanced through deliberate management of public access points and new developments appropriate for the setting; 2. People accessing the Remount Depot are provided greater opportunities to learn of the significance of the historic and natural sites they are visiting; 3. Onsite interpretation at a gateway interpretive facility teaches visitors about heritage and natural features with the intent to lead them to resource stewardship through appropriate behaviors; and 4. Riparian areas along the shore of Fish Lake are restored and protected from further impact. Design and interpretive standards for the project will be compatible with the Scenic Byway Design Guide and Interpretive Plan, 1993.

### **D. Project Development**

An Interdisciplinary Team (IDT) was formed in February 2000, to complete the Fish Lake Special Interest Area Implementation (SIA) Guide, which would 1. recommend projects to carry forward into environmental analysis from the implementation guide, and 2. to conduct the analysis for the proposed actions. The SIA Guide was completed in 2001. The IDT consulted a number of individuals from the Forest Service, Oregon Department of Transportation (ODOT), and interested public representing various specialties, disciplines and interests. A public meeting was held on July 12, 2000 to talk about long-term issues associated with the preservation of the cultural and natural resources in the Fish Lake SIA, and to scope for issues for the development of an interpretive facility. A formal consultation took place with ODOT representatives to review highway access safety considerations.

An article appeared in the Willamette National Forest's quarterly announcement, the Forest Focus from fall, 2000 through fall, 2001 requesting input on the development of the SIA implementation guide and proposed actions.

#### **E. Significant Issues**

Based on the issues raised by the public and the Forest Service, the following significant issues were identified:

##### **Safety**

This issue addresses the extent to which proposed actions in the development of an interpretive facility affect the safety of visitors and administrative personnel accessing the Fish Lake Remount Depot.

##### **Riparian Impacts**

This issue identifies the extent to which proposed actions in the development of an interpretive facility restores riparian habitat.

##### **Visitor Experience**

This issue addresses the degree to which proposed actions in the development of an interpretive facility enhances the visitor's experience.

##### **Previously Disturbed Areas**

This issue addresses the extent to which proposed actions in the development of an interpretive facility confines development to and utilizes existing access roads, impacted areas, developed sites and facilities.

##### **Recreation Displacement**

This issue identifies the extent to which proposed actions in the development of an interpretive facility displaces recreation uses.

##### **Historic Preservation and Integrity**

This issue addresses the degree to which proposed actions in the development of an interpretive facility affects the qualities of significance for the Santiam Wagon Road, Remount Depot facilities and the historic landscape.

Other issues considered, but not determined as significant issues included:

- *Proposed, Endangered, Threatened and Sensitive Species (PETS) Plant, Fish and Wildlife Species*
- *Prehistoric Heritage Resources*
- *Management Indicator Species and Migratory Landbirds*
- *Survey and Manage Species*
- *Water and Scenic Quality*

## II. ALTERNATIVES CONSIDERED

### A. Formulation of Alternatives

Alternatives were developed to respond to the significant issues. All of the action alternatives meet the purpose and need to develop an interpretive gateway facility to the historic Fish Lake Remount Depot, which would 1) formalize management of public entry into the Remount Depot, 2) educate the public about the significance of historic resources, and 3) provide for their protection and preservation.

### B. Alternatives for the development of the Fish Lake Interpretive Facility

#### Alternative A – No Action

This alternative proposes no change in current conditions.

#### Alternative B

This alternative develops an interpretive facility within the Fish Lake Remount Depot with one-way public and administrative vehicle access into and out of the Remount Depot. The existing administrative road into the Remount Depot and the existing road into the developed campground are both utilized to provide for “flow-through” vehicle traffic. Interpretive media, public restroom and parking area are developed within the Remount Depot and overnight use of the adjacent campground is eliminated. The toilet is removed from the campground. Gates would be installed on both access roads at Highway 126, as well as on the Santiam Wagon Road, north out of the Remount Depot. Hours of public use would be implemented with gate closures. Highway access modifications would be made for safe entrance and exit. Stock interface with vehicles would be mitigated through use of gates and established hours of public use. Restoration of riparian area is completed at the existing campground and traffic controls are placed to confine vehicles to roadway.

#### Alternative C

This alternative develops two separate interpretive areas. An interpretive facility is developed within the Fish Lake Remount Depot focused on orienting visitors to the historic site. A second facility is developed at the existing developed campground focused on interpreting Fish Lake. Public and administrative access to the Remount Depot is provided via the existing administrative road. A parking area and vehicle turnaround is developed off the highway at the end of the administrative road as it enters the Remount Depot. A new gate and appropriate

traffic controls would be installed at the parking area for administrative access only. The existing gate at the highway entrance will be open during established hours of public use. New developments within the Remount Depot would meet accessibility requirements to the greatest degree possible, recognizing the rest of the facility does not necessarily meet current ADA accessibility standards. The developed campground would be modified to function as a fully accessible Fish Lake interpretive site for day use only. A new barrier-free toilet would replace the existing toilet. Overnight camping at the campground would be eliminated. Restoration of the riparian area would be completed at existing campground, within the new interpretive facility. Signage would be developed to orient visitors to the new public access into the Remount Depot. A gate would be installed at the north end of the campground to block pedestrian access and eliminate vehicle access to the Remount Depot from the Fish Lake interpretive site. Stock interface with pedestrians would be eliminated by this closure. Highway access safety modifications are made for safe entrance and exit from both facilities.

#### Alternative D

This alternative develops an interpretive facility immediately adjacent to Highway 126. The facility would focus on orienting visitors to the Remount Depot. A parking area, interpretive signs and restroom facility would be developed just north of the existing administrative road. Pedestrians would use the existing administrative road as access into the Fish Lake Remount Depot. The existing gate would be retained for administrative access into the site. The developed campground would continue to operate. A gate would be installed at the north side of the campground to eliminate vehicle access and block pedestrian access into the Remount Depot. Stock interface with pedestrians would be eliminated by this closure. Signage would be developed to orient campground visitors to the new Fish Lake interpretive facility and access into the Remount Depot. Highway access safety modifications would be incorporated into parking and traffic flow design for the interpretive facility.

#### Alternative E

This alternative develops an interpretive facility at the existing developed campground that focuses interpretation on Fish Lake and orients visitors to the Remount Depot. Overnight camping would be eliminated at the site. A barrier-free toilet would replace the existing toilet. A picnic area and accessible interpretive trail to a view of the lake would be developed with pedestrian controls to protect riparian area. Restoration of riparian area would be completed. The existing road into the Remount Depot from the developed campground would be utilized for pedestrian access to the Remount Depot. A gate would replace existing barrier-posts. The gate would be installed closer to the new interpretive facility for improved vehicle traffic control. Highway access safety modifications would be made for entry and exit into the interpretive facility. Stock interface with visitors would be mitigated through established hours of public use and



gates. Stock would be entering and leaving corrals only during hours when administrative personnel are onsite, and are blocked from corrals during visitor use periods. A gate would be installed at the highway access into the interpretive facility to close site outside of public use periods. This is the preferred alternative.

#### C. Actions Common to All Action Alternatives

All action alternatives establish hours of public use with potential to eliminate after-hours use through installation of gates at access points. Opportunities to control visitor access during times where visitation may pose safety hazards and to schedule appropriate activities during public use periods are made possible. Opportunities to manage pets onsite exist under these alternatives. The adjacent dispersed camping area would not be altered. Highway access modifications are made in alternatives B, C and E to improve visibility for visitors entering Highway 126 from access road at existing campground. Opportunities to control visitor access during times where visitation may pose safety hazards and to schedule appropriate activities during public use periods are made possible.

Some degree of riparian restoration at the existing campground area is included in each of the action alternatives. Alternatives B and C would seed and mulch existing disturbed areas at the access point to Fish Lake and around the six campsites with native species; place large wood to help control foot traffic and to provide micro-sites to enhance seed success; utilize rocks for vehicle control with native mosses attached; transplant native shrubs from adjacent undisturbed areas into existing disturbed areas where suitable soil exists; mechanically treat existing infestations of St. Johns Wort, and remove the water faucet near the access point of Fish Lake. Restoration activities in Alternative D will utilize treatments in B and C above that specifically address the access point to Fish Lake including placement of large wood. Alternative E accomplishes the same level of restoration of B and C with the exception of portions of the 5 campsites above the water level of the lake that will be retained as picnic sites.

Alternative Comparison – Key Development Components

	A	B	C	D	E
Develops interpretive facility in campground			X		X
Developments use existing campground access	X	X	X		X
Developments use existing administrative access	X	X	X	X	
Eliminates campground		X	X		X
Develops interpretive facility within Remount Depot		X	X		
Develops interpretive facility in new area				X	

D. Other Alternatives Considered

An alternative was considered to develop an interpretive facility at the old gravel pit location (dispersed camping area) east of Highway 126. This alternative was dismissed as unsafe due to visitors being required to cross the highway, poor visitor experience due to limited attraction of the site and poor physical and psychological linkage to Fish Lake and the Remount Depot.

Another alternative was considered to develop a parking area at the dispersed camping area on the southeast corner of Fish Lake, adjacent to the developed campground. This alternative was dismissed because of limited attraction of pedestrian access from the parking area due to proximity with the highway and poor physical linkage to Fish Lake and the Remount Depot.

A third alternative was considered to develop an interpretive facility within the developed campground and retain overnight use at the site. This alternative was dismissed due to limited space to both park day users and campers within the site while providing adequate vehicle turnaround and clearly separating day use from

overnight use. Opportunities to redirect travel access and redesign parking for day use would impact existing campsites and campsite parking.

Other pedestrian access alternatives into the Remount Depot were considered. These included:

- Development of an access trail from the developed campground location on the east side of the Remount Depot utilizing an old roadbed through lava, and connecting to the administrative road. This access alternative was dismissed as significantly changing the historic landscape of the Remount Depot, construction feasibility concerns due to steep grades, and poor visitor experience due to the long hike in full sun exposure with limited visual interest.
- Development of a pedestrian “overpass” through stock corrals or stock passage “culvert” in order to mitigate pedestrian and stock interface were considered. Both access options were dismissed as significantly changing the historic landscape of the Remount Depot and construction feasibility concerns.

### III. AFFECTED ENVIRONMENT

#### A. Fish Lake Special Interest Area

The Fish Lake Special Interest Area (SIA) encompasses a unique cultural and natural landscape. It includes a developed campground, the historic Remount Depot, adjacent dispersed camping, Fish Lake and portions of Hackleman Creek and Fish Lake Creek. The Santiam Wagon Road Special Interest Area bisects the Fish Lake SIA. The area is primarily accessed from State Highway 126 on a common corridor segment of the West Cascades and McKenzie Pass – Santiam Pass National Scenic Byways. The Santiam Wagon Road provides the primary public access link into the Fish Lake Remount Depot from the highway, via Fish Lake Campground.

The Fish Lake Work Center, an active Forest Service administrative site, is situated within the historic Fish Lake Remount Depot. Serving as the original Fish Lake Ranger Station, this area was withdrawn from potential homestead entry by the Forest Service for use as an administrative site in 1906. The Santiam Wagon Road evidences earlier use of this site, beginning in 1865, and bisects the Fish Lake Special Interest Area.

The Fish Lake SIA Implementation Guide was completed in 2001. It describes management objectives and activities appropriate to preserve the exceptional natural and cultural characteristics identified in the Fish Lake SIA, while fostering public use and enjoyment of the area.

## **B. Recreation**

General summer recreation use of the Fish Lake Remount Depot is random and is currently managed on an as needed or by request basis. Most visitors access the Remount Depot from the developed campground and dispersed areas. Visitation averages 20 to 30 visitors daily on summer weekends, with as many as 100 during holiday periods. Hikers and bicyclists occasionally access the area from the nearby McKenzie River National Recreation Trailhead. Visitors walk or bicycle from the developed campground to stock corrals within the Remount Depot. A pedestrian opening through two fences allows visitors to walk through the corrals twenty-four hours a day. When not in use for packing operations, stock cross this alleyway moving from the barn to the lakebed to graze. Some visitation also occurs from the Santiam Wagon Road accessed by Highway 20 to the north. Visitors are generally unaware of the historic status and significance of the Santiam Wagon Road and the Remount Depot. A rustic routed-wood interpretive sign inside the Remount Depot gives a brief history of the site. A similar type sign is located at the pioneer gravesite. Forest Service personnel living and working onsite have frequent interactions with the public who visit the area during the summer season.

Fish Lake Campground is a comparatively small, low use, 8 unit facility located south of the Remount Depot, on the east side of Fish Lake. The maximum capacity for this campground at one time is 40 people. The primary season of use is during the spring once the snow melts in mid-May until the lake dries up about mid-July. It also receives use by hunters in the fall. Use fees have been charged at the site since 1990. From 1994 to 2000, Fish Lake Campground was one of three campgrounds that made up the Upper McKenzie Complex, which was operated under special use permit by a concessionaire. During the 1995-1999 Special Use Authorization period, Fish Lake Campground accounted for 2%-3% of the receipts and 4%-6% of the visits to the Upper McKenzie and Mid-McKenzie Campground complexes. The authorization for these complexes expired in December 2000. A decision was made to drop Fish Lake Campground from the new campground prospectus. The Fish Lake Campground currently operates as a self-service fee site, managed by Forest Service personnel, and has running water and a two-stall vault toilet onsite. Standard improvements at each site include a picnic table and fire ring. The toilet is not ADA accessible. Highway access into the campground is poor as it follows the historic route of the Santiam Wagon Road, and has been attributed to vehicle accidents.

There is a substantial area used for dispersed camping immediately adjacent to the developed campground. This area has high levels of use throughout the summer season. Historically, it receives higher use than the developed campground. This area and Lost Lake provide the only dispersed camping opportunities that offer easy highway access in desirable natural setting adjacent to a lake on McKenzie Ranger District. Visitors to the Fish Lake dispersed area are generally returnees who desire the ease of access and space for larger vehicles, recreational vehicles

and trailers. Primary seasons of use are in the spring when the lake is full and in the fall during hunting season. There are no improvements in the area.

Winter recreation use is deliberately managed through a cabin rental program, administered by the McKenzie Ranger District. Access to the two rental cabins is limited to non-motorized activities including cross-country skiing and snowshoeing.

### **C. Heritage Resources**

The access into the developed Fish Lake Campground from Highway 126 utilizes a segment of the Santiam Wagon Road (SWR). The SWR also runs through the Remount Depot. The historic integrity of this segment is of good quality. The Fish Lake Remount Depot encompasses approximately 20 acres of the Fish Lake SIA. It was used as a midway stop on the Santiam Wagon Road for wagon trains and horses more than 100 years ago. Standing historic structures within the Remount Depot were built in the 1920's and 1930's. Maintenance and preservation of these historic structures has been ongoing. Other historic features within the historic landscape of the Remount Depot include the Charity Ann Noble Grave Site, several structural foundations, corrals and rock walls. Vandalism in the form of breaking and entering and theft often occurs on the site when administrative personnel vacate the area in mid-fall.

Heritage Resource Surveys were completed during summer of 2001. The survey report is on file at the McKenzie Ranger District.

### **D. Vegetation, Botanical, Fisheries and Wildlife**

The current primary tree species in the developed campground is Douglas-fir and black cottonwood. Very little regeneration of any species exists due to loss of sunlight from tree canopy and compacted soils from recreational use. Most of the ground within the developed area consists of bare soil and duff. The riparian area, however, has a wide range of species. Some of the Douglas-fir and cottonwood trees are older and appear unhealthy. Established, non-native St. John's wort and woolly mullein are abundant in the campground and along the roadsides.

The overstory trees in the Remount Depot are comprised of Pacific silver and Douglas-fir. The average age of the overstory trees is only about 50 to 55 years, but show excellent growth and diameters of about 25 inches. A stand of trees on the western lake shore provides a high quality scenic backdrop for the Fish Lake SIA, as well as a scenic buffer from the younger, managed stand planted about 20 years ago in a harvest unit.

Fish Lake and Hackleman Creek drainage above the lake provide unusual aquatic habitat for locally adapted species. Fish Lake is seasonally present, generally from fall through early summer depending upon quantities of flow provided by

snow pack and rainfall. Subsurface drainage out of Fish Lake exceeds the rate of flow provided to the lake during summer. This causes the lake to generally dry up in July, although it occasionally dries as early as June depending upon the water year. Most cutthroat trout (*Oncorhynchus clarki*) utilizing the lake move upstream into Hackleman Creek during the summer. However, some trout remain in the lake bottom in isolated sinkholes through summer.

The long period of isolation of approximately 3,000 years from McKenzie River cutthroat trout may have resulted in a genetically unique cutthroat trout species that range from the outlet of Clear Lake to McKenzie River's headwaters of Hackleman Creek, including Fish Lake. These trout are referred to as "Hackleman cutthroat" and are utilized by the Oregon Department of Fish and Wildlife's (ODFW) hatchery program. Other species present in Fish Lake are brook trout (*Salvelinus fontinalis*), which have naturalized from stocking in Clear Lake and in upper Hackleman Creek's Heart Lake. Fish Lake is believed to provide adult cutthroat foraging and sub-adult rearing habitat. Hackleman Creek provides cutthroat with spawning and early rearing habitat, as well as adult refuge and foraging habitat when Fish Lake is dry.

The Fish Lake area is an exceptionally diverse ecosystem because of the seasonally changing environment from lake to meadow. A wide variety of wildlife species take advantage of the full pool for breeding and foraging, and many continue to use the area even after the lake recedes to a small stream. Standing snags and lake shore vegetation provide a high quality nesting area for waterfowl such as Canada geese, Barrow's goldeneye, and Common Mergansers. The water also provides protection for these species from predators and good forage in the form of water plants and insects. Wading birds, including great blue herons and spotted sandpipers, continue to use the area even after the water recedes. Beaver, mink and otter are occasionally seen here. Ospreys nest in the adjacent forest, foraging on the native trout within the lake and creek. Bald eagles also forage in the area, although no nesting has been documented. As the lakebed dries, deer and elk become fairly abundant and coyote are often seen hunting in the sedges. The area is home to many other birds of interest – everything from Audubon's warblers to pileated woodpeckers to spotted owls – making it an outstanding landscape for birdwatchers. Reproductive output of amphibian species like the western toad is prolific, with the ground often covered with toadlets in the mid-summer months.

The buildings within the Remount Depot have provided an interesting habitat feature for little brown and yuma bats, which have created a nursery colony between logs and in attics. Efforts to reduce their occupancy and resulting impacts to buildings through log chinking have only been partially successful. The bats are an important part of the ecosystem in this area, as evidenced by their mosquito control service as well as the food they provide as prey to sharp-shinned hawks.

## E. Hydrology

Fish Lake, located at the bottom of Hackleman Creek drainage, is a large seasonal wetland that fills every fall. It usually goes dry by mid summer in a normal water year. Fish Lake was formed when lava flows blocked the creek about 3000 years ago. Since then, sediments have been deposited and stored behind the blockage. Water from the Hackleman Creek drainage continues to flow through the system, but because of the depth of the stored sediments and the porosity of the underlying lavas, flows during summer months are subsurface at the outlet of the lake near Highway 126. The flows travel subsurface for approximately ½ mile below the outlet before resurfacing and continuing to Clear Lake. Grazing of the lake by pack stock occurs annually when the lakebed is dry. The Fish Lake Campground is located along the southeast portion of the lake. Sites within the campground were inventoried in 1999 for watershed restoration needs. Trails have developed from the sites to the water's edge over flat, rocky ground. Resulting de-vegetation beyond the actual campsites and supporting traffic facilities is minimal, and there is little evidence that erosion of these sites is affecting water quality. However, some of the existing campsites lie within the high water level of the lake. These and other campsites within the riparian reserve are devoid of, or have significantly impaired native vegetation.

Downstream uses of the water that exits Fish Lake include: surface recreation at Clear lake and on the McKenzie River; fish habitat; and public drinking water for the City of Eugene. Clear Lake is an exceptional body of water renowned for its clarity, and is dependent on the quality of inflows from upstream. The McKenzie River below Clear Lake is part of the national system of wild and scenic rivers and has water quality listed as an outstandingly remarkable value. This portion of the McKenzie River has also been listed as water quality limited by the Oregon Department of Environmental Quality (1992 List of Water Quality Limited Streams, DEQ 1998), due to elevated stream temperatures.

## IV ENVIRONMENTAL CONSEQUENCES

### A. Safety

The effects of the alternatives on this issue are based on the degree to which proposed actions in the development of an interpretive facility affect the safety of visitors and administrative personnel using the site to access the Fish Lake Remount Depot. Factors considered when analyzing each of the alternatives included highway access, pedestrian access, interface with stock, pedestrian interface with vehicles, pets and employee personal safety.

**Alternative A.** Under the no action alternative highway access into the developed campground would not be changed. Highway visibility to visitors approaching the highway remains impaired. Pedestrian access into the Remount Depot would remain unchanged. Visitation to the Remount Depot would

continue to be limited to casual, unsolicited pedestrian access from adjacent recreation sites. Pack stock interface in the corral continues to exist, creating a potential risk to visitors. Visitor's pets would remain unmanaged and potential harassment of stock exists. Vehicles would not interface with pedestrians under this alternative. Uncontrolled access would remain for visitors, perpetuating security concerns for employees living and working onsite.

**Alternative B.** Pedestrian access into the Remount Depot would not be required under this alternative, as visitors would be able to drive right to the site. However, pedestrian interface with both visitor and administrative vehicle traffic would be created. Pack stock/pedestrian interface would be eliminated, as the corral walk-through would become a drive-through access. Employee personal safety would be improved during public use hours; and after-hour public access would be reduced to some degree. Elimination of overnight campground may lessen unauthorized after-hour public access. However, public visibility of the would be greatly increased under this alternative due to the opportunity for anyone to drive through the site during public hours of use.

**Alternatives C and D.** There would be minimal pedestrian interface with administrative vehicle traffic inside the Remount Depot under this alternative. Alternative C provides visitor vehicle access via the administrative road, creating two-way interface with both visitor and administrative/resident traffic. Alternative D allows only administrative traffic on the administrative road; therefore, pedestrians would occasionally interface with administrative traffic. Pack stock/pedestrian interface would be eliminated, as access would no longer be provided through corrals. There would be no drive-through access to the Remount Depot, which lessens the degree of employee personal safety concerns. However, Alternative C places vehicles within close proximity of the facility. Alternative D retains overnight camping adjacent to the site, which may encourage unauthorized after-hour use into the facility.

**Alternative E.** There would be no pedestrian/vehicle interface under this alternative. Moving stock primarily during non-visitor hours will eliminate pack stock/pedestrian interface. Installation of a gate on the highway would close off public access to the interpretive site in the evenings. Vehicles would be parked a distance from the facility and overnight camping adjacent to the site would be eliminated, improving employee personal safety to some degree.

## **B. Riparian Impacts**

The effects of the alternatives on this issue are based on the amount of riparian restoration work to be accomplished as a result of the proposed actions in the development of an interpretive facility. Specific restoration measures are described in II-C above.



In addition to the Upper McKenzie Watershed Analysis completed in 1995, an aquatic conservation strategy analysis was completed in October 2001 for this project for all of the action alternatives considered. All alternatives meet the Aquatic Conservation Strategy Objectives (see Appendix 1).

**Alternative A.** Riparian vegetation would not be restored under this alternative.

**Alternatives B and C.** Both of these alternatives would restore native riparian vegetation on approximately 1.75 acres at 6 campsites that would be eliminated and near the access point to Fish Lake.

**Alternative D.** This alternative would restore approximately .25 acres of native riparian vegetation near the access point a Fish Lake.

**Alternative E.** This alternative would restore approximately 1.13 acres of native riparian vegetation where one campsite is eliminated in its entirety; where five campsites would be reduced in size and managed as day use picnic areas; and near the access point to Fish Lake.

### **C. Visitor Experience**

The effects of the alternatives on this issue are based on the degree to which recreation visitors experience is impacted. Factors considered when analyzing each alternative included aesthetics and proximity of interpretive settings; range of visitors and vehicles provided for; and visitor interface with administrative controls and functions.

**Alternative A.** The no action alternative maintains minimal opportunities for casual visitors to find and walk into the Remount Depot. Two rustic information signs exist within the Remount Depot, and occasionally Forest Service personnel are available to deliver spontaneous personal interpretation. The historic setting is maintained due to absence of modern visitor developments. The status quo does not deliberately provide for recreation visitors. Visitors must have prior knowledge of the site to find it. Current pedestrian access, interpretation and restroom facilities are not ADA accessible. Oversize recreation vehicles must park in dispersed camping area to access the site. Visitors may interface with administrative functions. This interface is happenstance, and could include encountering employees living, working and maintaining the facility. Some functions may be of interest to visitors – such as horse shoeing, stock packing operations, and building restoration. Other functions may be unsafe for visitors – such as building maintenance; or inappropriate for public observance and involvement – such as fire suppression activities, employee housekeeping and work activities. There are no regulatory controls within the Remount Depot and limited opportunities to schedule administrative functions for appropriate level of public involvement.

**Alternative B.** This alternative focuses all interpretive development within the heart of the Remount Depot. It would bring visitors directly into the facility by vehicle, providing for the greatest range of visitors and oversize recreation vehicles. However, no interpretive introduction to the area would be offered and opportunities to interpret the natural history and historic linkage of Fish Lake would not be realized. To some degree, vehicles driving through and parking within the Remount Depot would impact aesthetics of the interpretive area and historic setting. Additional signs, parking area, traffic controls and restroom that would be installed within the Remount Depot under this alternative could significantly impact aesthetics of facility. This alternative would pose the highest level of regulatory controls due to vehicle presence.

**Alternative C.** This alternative offers interpretive development at two locations, with opportunities to interpret both the natural history of Fish Lake and “gateway” interpretation of the Remount Depot. However, there would be no sequential linkage between the two areas, as visitors would be required to drive from Fish Lake to the “gateway” facility to access the Remount Depot. This alternative would provide for the greatest range of visitors. However, oversize recreation vehicles would not be accommodated at the Remount Depot facility due to spatial development limitations. Extensive new developments, similar to B above, adjacent to Remount Depot could also impact aesthetics of Remount Depot. Regulatory controls are similar to B above, but without vehicle controls within the Remount Depot.

**Alternative D.** This alternative would develop an interpretive setting the farthest walking distance from the Remount Depot. The access route, located on the existing administrative road, would be a “most difficult” ADA accessibility rating due to its length, grade and surfacing. Visitors would occasionally interface with employee and administrative vehicle traffic, potentially impacting their experience. Gateway interpretation introducing the Remount Depot would be located on the highway, exposing visitors to traffic noise. Fish Lake would not be interpreted under this alternative. New developments would not impact aesthetics of Remount Depot. Regulatory controls would be minimal once visitors depart interpretive gateway.

**Alternative E.** This alternative would develop an interpretive facility in the existing access location, a shorter walking distance than Alternative D. An ADA accessibility rating of “easiest” would be attained on the access route. Utilization of the existing Santiam Wagon Road segment as the access route would provide a gateway transition and historic link to the Remount Depot. The greatest range of interpretive subject matter would be offered under this alternative, logically linking Fish Lake, the Santiam Wagon Road and the Remount Depot. New developments would not impact the aesthetics within the Remount Depot. Regulatory controls would be minimal once visitors depart interpretive facility.

## **D. Use of Previously Disturbed Areas**

The effects of alternatives on this issue consider the degree to which development of an interpretive facility is confined to previously disturbed areas.

**Alternative A.** The no action alternative utilizes only previously disturbed areas for recreation and visitor activities. No additional areas are disturbed as a result of developing an interpretive facility.

**Alternative B.** This alternative would confine ground disturbance to previously disturbed areas within the Remount Depot for development of parking area, traffic controls and installation of a new restroom within the Remount Depot.

**Alternative C.** This alternative would add an entirely new facility. Ground disturbing developments would encompass approximately one acre and include a parking area, vehicle turnaround, a restroom and traffic controls. The existing campground area would be utilized to develop a visitor interpretive facility on previously disturbed ground.

**Alternative D.** This alternative would add an entirely new facility and would disturb new ground to the greatest degree. New developments encompass approximately 2-3 acres, including highway access, parking area, restroom, interpretive panels and traffic controls. A new restroom within the Remount Depot would also be required under this alternative.

**Alternative E.** This alternative would confine all new developments within previously disturbed areas of the existing campground.

## **E. Recreation Displacement**

The effects of alternatives on this issue determines the extent to which proposed actions in the development of an interpretive facility displaces recreation uses.

**Alternatives A and D.** There is no displacement of recreation uses under these alternatives.

**Alternatives B, C and E.** These alternatives would each eliminate the developed campground. Use figures indicate that 795 people utilized the seven-campsite facility for overnight camping in 2001. Alternative B would also eliminate day use parking and access to Fish Lake. Alternatives C and E would utilize the existing campground location for day use activities.

## **F. Historic Preservation and Integrity**

This issue addresses the degree to which proposed actions in the development of an interpretive facility affects the qualities of significance for the Santiam Wagon

Road, Remount Depot facilities and historic landscape. Surveys were completed finding no adverse affect on historic resources. If an action alternative is selected, monitoring will take place during design and implementation to ensure protection of historic resources.

**Alternative A.** Under the no action alternative integrity of the Santiam Wagon Road and the historic landscape will continue to degrade to some degree. The historic structures and ancillary features within the Remount Depot will continue to be exposed to risks of incidental impacts and intentional vandalism from casual, unmanaged visitation. Minimal interpretive and educational information will be provided to the public. Preservation efforts will continue to protect historic structures.

**Alternative B.** Under this alternative, the modern surfacing on the Santiam Wagon Road would be maintained and to some degree improved to handle additional vehicle traffic. A gate would be installed on the road at the north end of the Remount Depot. The historic landscape of the Remount Depot would be affected by the addition of new elements including restroom, parking area and traffic control. The historic landscape would also be aesthetically affected by the presence of modern vehicles parked within the Remount Depot. This alternative would pose a greater degree of risk to the historic facilities because it would introduce the greatest number of people in vehicles to the site. The risk of theft of removable artifacts and vandalism of historic properties would increase with the proximity of vehicles and ease of public access to the site. Administrative controls necessary to secure historic features would affect the historic integrity of the facility.

**Alternative C.** This alternative would cause no additional impact on the Santiam Wagon Road as a gate would not be required and the surfacing would not need to be maintained for vehicle traffic. The historic landscape and the Remount Depot facilities would be affected to the same degree as Alternative B.

**Alternatives D and E.** Alternative D would cause no additional impact to the Santiam Wagon Road, and does not propose changes that would affect the historic landscape or the Remount Depot facilities. Alternative E would be the most advantageous to the overall integrity of the Santiam Wagon Road as it would offer the greatest opportunity to enhance the condition and character of the historic travel way. Under both alternatives, access to the Remount Depot would be less convenient than alternatives B and C as visitors would be required to walk, rather than drive, to the site. Restricting vehicle access lessens potential theft or vandalism to historic features. These alternatives would each develop a gateway interpretive facility that does not impinge on the historic landscape.

## **G. Other Effects**

There are no anticipated effects on consumers, minority groups, women, civil rights, prime forest, range or farmland expected as a result of implementation of any of the alternatives. No issues have been identified with these groups and the proposed project is not located in prime forest, range or farmland.

## **H. Non-significant Issues**

### Water Quality

Due to the hard, stable lava that underlies the project area, existing levels of impact have not measurably affected water quality in Fish Lake, or downstream in the McKenzie River. Since all of the action alternatives include restoration measures that to some extent reduce the existing levels of disturbed area, it is fair to conclude that the action alternatives also will not measurably affect water quality.

In addition, Alternatives B, C and E eliminate the existing campsite below the high water level of Fish Lake. This lowers the risk that occupants of the site may dispose of, or accidentally spill harmful contaminants at a location accessible by lake waters. Alternative A, the No Action alternative and Alternative D do not eliminate this risk.

### PETS Plants, Fish and Wildlife

The biological evaluations/assessments for this EA found that all alternatives would have no impact/effect to PETS species because they avoid habitat removal, degradation or disturbance (Appendix 2-4).

### Survey and Manage Species

Surveys of the project area were conducted and no Survey and Manage Species from Table 1-1 of the 2001 Record of Decision were documented (Appendix 5). The alternatives will not affect any of these species.

### Prehistoric Heritage Resources

Proposed developments are not located within areas where isolated artifacts have been located through cultural resource surveys and therefore would not impact prehistoric heritage resources.

### Scenic Quality

Proposed developments will not affect scenic quality of the SIA or the scenic byway corridor because vegetation and natural appearance will be maintained.

### Management Indicator Species and Migratory Landbirds

Management Indicator species (MIS's) were addressed in the Willamette National Forest Plan (1990). They include the spotted owl, pileated woodpecker, marten, elk, deer, cavity excavators, bald eagles, peregrine falcons, and fish. Through

Region-wide coordination, each Forest identified the minimum habitat distribution and habitat characteristics needed to satisfy the life history needs of the MIS's. Management recommendations to ensure their viability were incorporated into all Willamette National Forest (WNF) Plan Action Alternatives. All alternatives in this project meet applicable Standards and Guidelines from the WNF Plan. The amount or characteristic required habitat is not significantly changed. With the 1996 and 2001 Amendments to the WNF Plan (i.e. the Northwest Forest Plan, NWFP), persistence for spotted owls, pileated woodpeckers, and marten were evaluated, and the FSEIS indicated persistent populations would be maintained under the NWFP Standards and Guidelines (Appendix J2). All alternatives in this project meet applicable Standards and Guidelines from the NWFP.

A January 11, 2001 Executive Order outlines the "Responsibilities of Federal Agencies to Protect Migratory Birds." Habitats vary broadly for this large group of specie. The felling of a few trees as proposed with the action alternatives of this project may unintentionally take individual migratory birds, but is not expected to have a measurable negative effect on bird populations because of the limited extent of the habitat removal.

# FISH LAKE INTERPRETIVE SITE AQUATIC CONSERVATION STRATEGY ANALYSIS

*October 31, 2001*

**ACS Objective #1: Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations and communities are uniquely adapted.**

Watershed Analysis has been conducted for the Upper McKenzie Watershed where this project is located. This document describes the important physical and biological processes and features that occur within the landscape. Since all proposed projects are located within existing recreation or roadside developments, and the area affected by each individual project proposal is less than three acres, landscape-scale features would be maintained.

**ACS Objective #2: Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life history requirements of aquatic and riparian-dependent species.**

Temporal and spatial connectivity within the watershed would be maintained, since the project is not large enough, or located in a position to affect connectivity between watersheds. Alteration of existing parking and camping facilities, and placement of interpretive signing will not result in chemical or physical obstruction of routes to areas critical to aquatic or riparian dependent species.

**ACS Objective #3: Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.**

All action alternatives include measures designed to minimize additional shoreline disturbance, and to restore existing areas that have been de-vegetated by recreation traffic.

**ACS Objective #4: Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals comprising aquatic and riparian communities.**

*and*

**ACS Objective #5: Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate and character of sediment input, storage, and transport.**

All action alternatives include measures designed to minimize additional shoreline disturbance, and to restore existing areas that have been de-vegetated by recreation traffic. This will reduce existing sources of erosion and prevent additional erosion in the future, as these sites re-vegetate and traffic decreases.

In addition, Alternatives B, C, and E eliminate the existing campsite below the high water level of Fish Lake. This lowers the risk that occupants of the site may dispose of, or accidentally spill harmful contaminants at a location accessible by lake waters.

**ACS Objective # 6: Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.**

**And ACS Objective # 7: Maintain and restore the timing, variability and duration of flood inundation and water table elevations in meadow and wetlands.**

The project includes no activities that could alter stream flows or wetland water tables in the watershed.

**ACS Objective #8: Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distribution of coarse woody debris sufficient to sustain physical complexity and stability.**

Due to the spatial orientation of these projects, the retention of all large trees, and the limited geographic scope of this project, measurable changes in stream temperatures and coarse wood supply will not occur.

Alternatives B and C will each restore native riparian vegetation on approximately 1.75 acres at 6 campsites to be eliminated and near the access point to Fish Lake. Alternative D will restore approximately .25 acres near the access point at Fish Lake. And



Alternative E will restore approximately 1.13 acres where one campsite is eliminated entirely, where five campsites are reduced in size and managed as picnic areas, and near the access point to Fish Lake.

The project has no known effects on nutrient filtration.

Surface and bank erosion have been previously discussed under ACS Objective #5 above.

**ACS Objective #9: Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.**

By restoring native riparian vegetation as discussed under ACS Objective #8 above, habitat for riparian dependant invertebrate and vertebrate species will be restored.

This project complies with the Northwest Forest Plan, and all of its applicable standards and guidelines. Option 9 was expected to maintain and restore late-successional and old growth forest ecosystems, and provide adequate viability levels for all late successional species including species listed in the FSEIS ROD Table C-3. The Watershed Analyses for the Upper McKenzie Watersheds did not identify any need for increased protection above the ROD recommendations. All large old-growth trees and down woody debris will be retained. This project will not affect the amount or distribution of these habitats or species that use these habitats.

*Fish Lake Interpretive Site  
ACS Objectives Analysis*

**Prepared/Reviewed by:**

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Dave Kretzing, McKenzie River Ranger District Hydrologist

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Susan Stearns, River Ranger District Botanist

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Cheryl Friesen, McKenzie River District Wildlife Biologist

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Dave Bickford, McKenzie River District Fisheries Biologist

***APPROVED BY:***

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John Allen, McKenzie River District Ranger

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**Date:** 5-7-2002

**File Code:** 2600 Wildlife

**Subject:** Wildlife BE for Fish Lake Interpretive Facility EA  
McKenzie River Ranger District

### **Purpose**

The purpose of this Biological Evaluation is to review the Fish Lake Interpretive Facility EA in sufficient detail as to determine whether the proposed actions will result in a trend toward Federal listing of any sensitive species or if it will effect any listed Threatened or Endangered Species (Table 1). The Biological Evaluation process (FSM 2672.4) is intended to analyze and document activities to ensure proposed management actions: 1) do not contribute to loss of viability of any native or desired non-native animal species; 2) incorporate concerns for sensitive species throughout the planning process, reducing negative impacts to species and enhancing opportunities for mitigation; 3) ensure that activities will not cause a species to move toward federal listing; 4) comply with the requirements of the Endangered Species Act that actions of Federal agencies not jeopardize or adversely modify critical habitat of Federally listed species; and 5) provide a process and standard by which to ensure that threatened, endangered, proposed, and sensitive species (PETS) receive full consideration in the decision making process (FSM 2672.41 ID and 2672.41). Species evaluated include:

- Wildlife species listed or proposed to be listed as endangered or threatened by the USDI Fish and Wildlife Service.
- Species listed as sensitive by USDA Forest Service Region 6.

### **Location**

The Fish Lake Interpretive Facility is located on the McKenzie Ranger District on the Willamette National Forest. The project is located at T13S R6E Secs 29, 30, and 31.

### **Alternatives Considered**

Actions were proposed to develop an interpretive gateway facility to the historic Fish Lake Remount Depot. There is a need to officially manage public entry into the Remount Depot in order to educate the public about the significance of the historic site, including its protection and preservation and visitor traffic.

A. No action: There would be no changes to the project area.

B. One-way vehicle access flow into and out of Remount Depot. This alternative utilizes the existing access roads into the Remount Depot from Highway 126 for both entry and exit to the site through the current developed campground and the administrative road. It develops an interpretive facility and parking area within the Remount Depot and eliminate overnight use of the developed campground. The dispersed camping area would not be altered. Gates would be installed on both access roads, as well as the Santiam Wagon Road, north out of the Remount Depot. Hours of public use would be implemented with gate closures. Highway access safety modifications will be made for safe entrance and exit. Stock interface with vehicles would be mitigated through use of gates and established hours of use.

C. Vehicle access into the Remount Depot via existing administrative road and the development of two interpretive areas. This alternative develops a Remount Depot interpretive facility and parking area within the Remount Depot, using existing administrative road for vehicle access. Developed camping area is also modified to become a fully accessible (ADA) Fish Lake interpretive site for day use only. Orientation signage is developed to direct visitors to developed Remount Depot access. New developments within the Remount Depot meet accessibility to greatest degree possible, recognizing the rest of the facility does not meet accessibility to greatest degree possible. The existing gate at the highway entrance is relocated further into the Remount Depot, but set back from the buildings to minimize intrusion on historic integrity. Parking area and vehicle turnaround is developed off the highway near the gate on the south side of the road to minimize numbers of trees to be removed. Gate is installed at north edge of campground to eliminate pedestrian and vehicle access to Remount Depot from Fish Lake interpretive site. Highway access safety modifications are made for safe entrance and exit from both facilities. Restoration of riparian areas is completed within Day Use facility at Fish Lake.

D. Development of an interpretive facility adjacent to Highway 126. This alternative develops a Remount Depot interpretive facility north of and including access to the administrative road into the Depot, along the west side of Highway 126. Existing gate is retained and road is used for administrative traffic and pedestrian and vehicle access to Remount Depot from the campground. Orientation signage is installed at campground to direct Remount Depot visitors to the developed interpretive facility. Highway access safety modifications are incorporated into parking and traffic flow design for the interpretive facility.

E. Development of a day use only interpretive facility at the existing developed campground location. This alternative develops an interpretive facility that focuses on both Fish Lake and the Remount Depot at the existing developed campground and eliminated overnight camping. A picnic area and accessible interpretive trail to Lake's edge are developed, with pedestrian controls to protect riparian area and restoration efforts. Existing road into Remount Depot from developed campground and parking area is used for pedestrian access. Highway access safety modifications are made. Stock interface with visitors is mitigated through established hours of use and gates. Stock is in corrals only during hours where administrative personnel are onsite, and are blocked from corrals during visitor use periods. A gate is installed at highway access into interpretive facility for increased management flexibility and to close outside of established public use periods.

## **Prefield Review**

A prefield review of the proposed project area for PETS wildlife species on the Willamette National Forest was conducted. No PETS species are known to occur directly within the project area. There are species, however, that occur in the landscape near enough to the project area that their habitat could be impacted or noise generated from the project could be disturbing. These species include the northern spotted owl, bufflehead, and bald eagle. The area does not include critical habitat for any TE species.

## **Survey Results**

Surveys for the spotted owl, bald eagle, and bufflehead have been conducted in this landscape for at least the past 5 years. Protocols have been met, and information is current.

## **No Action Alternative:**

*Direct/Indirect/Cumulative Effects/Impacts:* There are no expected new effects/impacts to PETS species with the no action alternative. No habitat would be altered or removed and no additional noise would be generated at the Fish Lake Site. Degradation of riparian habitat would continue from uncontrolled human activities near the lakeshore.

## **Action Alternatives:**

*Direct Effects:* Alternative D is the only action alternative that removes or degrades habitat for PETS species. A small strip of spotted owl habitat (<0.1 acres) along Highway 126 would be removed to create an interpretive pull-out. Because this habitat is directly adjacent to a busy highway, its quality has been significantly reduced. At best, the area functions as dispersal habitat for owls crossing the highway opening. Removal of this forest will have no effect to spotted owls or their nesting, roosting or foraging habitat because it is not providing those functions on the landscape. Noise generated during removal of this habitat would not be greater than ambient levels associated with the highway. A seasonal restriction would not be required.

*Indirect Effects:* All action alternatives include riparian restoration that could benefit bald eagles and bufflehead indirectly by increasing the quality of riparian and aquatic habitat for their prey species. Alternatives B and C restore the most riparian habitat, followed by Alternatives E and D.

## **Determination**

It is my determination that implementation of either the action or no action alternatives will have no effect or impact on PETS wildlife species or their habitat because:

If the No Action Alternative is selected, no habitat would be altered or removed and no additional noise would be generated.

If an Action Alternative is selected, 1) Removal of poor quality spotted owl dispersal habitat in Alt. D will not effect this species; 2) Seasonal restrictions will not be needed because of the high levels of ambient noise associated with the highway.

Restoration of riparian areas in all action alternatives may have a beneficial impact on bald eagles and bufflehead because of the subsequent increase in riparian and aquatic habitat for their prey species.

Prepared by: \_\_\_\_\_

Cheryl A. Friesen  
Wildlife Biologist, McKenzie River RD

Date: \_\_\_\_\_

## ATTACHMENT 1. RISK ASSESSMENT PROCESS

This biological evaluation covers a 6-step process to identify threatened, endangered, and sensitive wildlife species that may be associated with the project area, and to evaluate any impacts the project may have to those species. The six steps are as follows:

1. Review of existing documented information (Table 2).
2. Field reconnaissance of the project area for evidence of species or habitat (Table 2).
3. Evaluation of the impacts of the project to suspected or known local populations of TES species (Table 1).
4. Analysis of the significance of the project's effects on local and entire populations of TES species (Table 1).
5. If step 4 cannot be completed due to lack of information, a biological investigation is done\*

Conferencing or informal/formal consultation with FWS is initiated at appropriate stage as outlined in FSM 2673.2--1, or is otherwise arranged through formal channels.

The Biological Evaluation process for wildlife species which may occur on the McKenzie River District is summarized below. Step #5 (BIOLOGICAL INVESTIGATION) was not required for any species, and it is not displayed. Blanks indicate steps not needed to complete the analysis. (Under "Survey Completed," a No\* indicates standardized surveys were not required because the proposed alternatives would avoid impacts to potential habitat (FSM ID 2672.43, 1992). Wildlife surveys are not required if potential habitat is not present.

Table 1: Summary of Impact Determinations for Animal Species on the Regional Forester's Sensitive Species List, Willamette National Forest. The Regional Forester is required to develop a sensitive species list under Forest Service Manual 2672.11. The Regional Forester's Sensitive Species List for Animals was last revised on November 28, 2000 (Forest Service Manual 2670 Interim Directive 90-1).

<b>TES Species</b>	<b>Habitat Present?</b>	<b>Survey Complete?</b>	<b>Species Present?</b>	<b>Conflict?</b>	<b>Mitigation</b>	<b>USFWS Consultation</b>
<b>Least Bittern</b> <i>Ixobrychus exilis</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Bufflehead</b> <i>Bucephala albeola</i>	Yes	Yes	Yes – migration & wintering only	NI/BI	None Needed	Not Needed
<b>Harlequin Duck</b> <i>Histrionicus histrionicus</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Yellow Rail</b> <i>Coturnicops noveboracensis</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Black Swift</b> <i>Cypseloides niger</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Tricolored Blackbird</b> <i>Agelaius tricolor</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Baird's Shrew</b> <i>Sorex bairdii permiliensis</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Pacific Shrew</b> <i>Sorex pacificus cascadenis</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>California wolverine</b> <i>Gulo gulo</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Pacific Fisher</b> <i>Martes pennanti</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Pacific Fringe-tailed Bat</b> <i>Myotis thysanodes vespertinu</i>	No	Not needed	No	NI	None Needed	Not Needed



TES Species	Habitat Present?	Survey Complete?	Species Present?	Conflict?	Mitigation	USFWS Consultation
<b>Oregon Slender Salamander</b> <i>Batrachoseps wrighti</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Cascade Torrent Salamander</b> <i>Rhyacotriton cascadae</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Foothill Yellow-legged Frog</b> <i>Rana boylei</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Oregon Spotted Frog</b> <i>Rana pretiosa</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Northwestern Pond Turtle</b> <i>Clemmys marmorata marmorata</i>	No	Not needed	No	NI	None Needed	Not Needed
<b>Peregrine Falcon</b> <i>Falco peregrinus anatum</i>	No	No	No	NI	None Needed	Not Needed
<b>Northern Spotted Owl</b> <i>Strix occidentalis (Threatened)</i>	Yes	Yes	W/in 1.2 miles	NE	None Needed. High ambient levels.	None Needed. No habitat loss. No disturbance
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus (Threatened)</i>	Yes	Yes	Yes-foraging only	NE	None Needed	Not Needed

NI / NE = **No Impact** for Sensitive Species. **No Effect** for TE species.

NLCT = May impact individuals or their habitat, but the action will **Not Likely Contribute** to a **Trend** towards Federal Listing or loss of viability to the population or species.

MCT = May impact individuals or their habitat, with a consequence that the action **May Contribute** to a **Trend** towards Federal Listing or a loss of viability to the population or species.

BI = **Beneficial Impact** for sensitive species; **Beneficial Effect** for TE species.

NLAA<sup>a</sup> = For TE species, May Effect, **Not Likely to Adversely Affect**

LAA<sup>b</sup> = For TE species, May Effect, **Likely to Adversely Affect**

a A NLAA determination requires *informal consultation* with the U.S. Fish and Wildlife Service.

b For *listed* species, a LAA determination requires *formal consultation* with the U.S. Fish and Wildlife Service. For *proposed* species, a LAA determination requires *conferencing* with the U.S. Fish and Wildlife Service (WO Amendment 2600-91-3, Forest Service Manual 2671.45, March 31, 1991).

Table 2: Summary of Biological Background for Animal Species on the Regional Forester's Sensitive Species List, Willamette National Forest (November 28, 2000).

Species	Habitat
<p><b>Northern Spotted Owl</b> <i>Strix occidentalis</i></p> <p><i>Status: Threatened</i></p>	<p>Occur primarily in the interior of older timber stands with structure required for food, cover, nest sites, and protection from weather and predation. Reproductive habitat = forest w/ canopy closure 60 – 80%; multi-layered, multi-species canopy dominated by large overstory trees (&gt; 30" dbh); abundant large trees w/deformities (e.g. large cavities, broken tops, dwarf-mistletoe infections, decadence); abundant large snags/down logs; and sufficient open flying space below the canopy. Foraging habitat = forest w/ &gt; 2 canopy layers; overstory trees &gt; 21" DBH; abundant snags/down wood; and a 60-80% canopy closure. Dispersal habitat = forest w/ &gt; 11" DBH trees and &gt; 40% canopy closure. Numerous sightings recorded on the McKenzie River RD.</p>
<p><b>Northern Bald Eagle</b> <i>Haliaeetus leucocephalus</i></p> <p><i>Status: Threatened</i></p>	<p>Use scattered old-growth conifer trees in proximity to rivers, lakes, and reservoirs with plentiful prey. Feed primarily on fish, but will also eat waterfowl and carrion. On the McKenzie River RD, they currently nest at Clear Lake and Blue River Reservoir. There have been sightings at Trailbridge, Cougar, and Smith Reservoirs, Fish, Linton and Lost Lakes and along the McKenzie River.</p>
<p><b>American Peregrine Falcon</b> <i>Falcon peregrinus anatum</i></p>	<p>Preferred nesting sites are sheer cliffs 75 ft. or more in height. They forage within a variety of forest types. Numerous potential and occupied habitat occurs on the McKenzie River RD.</p>
<p><b>Least Bittern</b> <i>Ixobrychus exilis</i></p>	<p>Freshwater or brackish marshes with tall vegetation. Stalks through the weeds to find prey. Eats small fish, frogs, insects, small mammals, and sometimes bird eggs and chicks. Nests is small platform of sticks and live or dead vegetation, placed in cattails, bulrushes, or bushes 8-14" above water. Sightings of individuals at Fern Ridge and Salem. No recorded sightings or habitat on the McKenzie River RD.</p>
<p><b>Bufflehead</b> <i>Bucephala albeola</i></p>	<p>Summers on wooded lakes and rivers, winters on lakes and coastal waters. Nesting normally occurs near lakes in tree cavities 5-50 feet high. Dives underwater and eats small mollusks, fish, snail, and crustaceans. Also eats aquatic insects. Only documented wintering on and migrating through the McKenzie River RD.</p>
<p><b>Harlequin Duck</b> <i>Histrionicus histrionicus</i></p>	<p>During nesting (April-June) adults require fast-flowing water with one + loafing sites nearby, dense shrub or timber/shrub mosaic vegetation on the bank, and an absence of human disturbance. Nest on ground under the shelter of vegetation, rocks, or large woody debris. Midstream loafing sites are very important. Broods prefer low gradient streams with adequate macroinvertebrate abundance. Recorded breeding/foraging in tributaries to the McKenzie River and foraging in the McKenzie River.</p>
<p><b>Yellow Rail</b> <i>Coturnicops noveboracensis</i></p>	<p>Feeds in shallow water, eating snails, insects, and some seeds and grasses. Summers on wet meadows, marshes, winters on grasslands, fields, coastal marshes. No documented habitat on McKenzie River RD.</p>
<p><b>Black Swift</b> <i>Cypseloides niger</i></p>	<p>Found near cliffs in mountainous regions. Feeds on-the-wing eating flying insects. Nests in small colonies on ledges or mountain crevices, often behind a waterfall. There are historical summer records in the Santiam Pass area, Linn County, which suggests breeding in that area. No current sightings on the McKenzie River RD.</p>

<p><b>Tricolored Blackbird</b> <i>Agelaius tricolor</i></p>	<p>Found in freshwater marshes w/cattails and dense shrubs, grain fields. Feeds on the ground, eating insects, grains, and weed seeds. Nests in large colonies. Nest of coarse reeds and grasses lined with finer material placed in reeds above ground or water. Breeds locally in eastern Rogue Valley, S. Klamath Co, and mainly in north-central Oregon. Scattered summer reports in Willamette Valley. No documented sightings on the McKenzie River RD.</p>
<p><b>Baird's Shrew</b> <i>Sorex bairdii permiliensis</i></p>	<p>Not much is known of its habitat, but in 1986, 2 specimens were trapped from an open Douglas-fir forested area with numerous rotting logs in Polk Co. It has been trapped on the McKenzie River RD in the Mill Creek area and south as well as in the Blue River watershed.</p>
<p><b>Pacific Shrew</b> <i>Sorex pacificus cascadenis</i></p>	<p>Generally found in wet or marshy areas along class III-IV streams w/red alder-salmonberry-skunk cabbage and banks with abundant down material. Occasionally found in adjacent conifer forest w/moist abundant decaying logs and brush. Nests made of grasses, mosses, lichens, or leaves. Feed on slugs, snails, insects, and sometimes vegetation. No documented sightings on the McKenzie River RD.</p>
<p><b>Pacific Fisher</b> <i>Martes pennanti</i></p>	<p>Found in a wide variety of densely forested habitats at low to mid-elevations. Diet consists of small and medium-sized forest mammals (porcupines, snowshoe hares, tree squirrels, mice, and voles most common). Also eat carrion, and will seasonally eat birds, bird eggs, amphibians, fish, and insects. Use ground burrows, tree cavities, witches'-brooms or other clumped growth, or occasionally bird or small mammal nests as resting sites. Tree cavities are used by most maternal females with young and ground burrows are used mostly in winter. Data suggests they do better in areas with minimized fragmentation of old growth, second-growth, and riparian area and in areas with abundant down and standing woody material important. Few documented sightings on the McKenzie River RD, mostly in the higher elevations.</p>
<p><b>California Wolverine</b> <i>Gulo gulo</i></p>	<p>Found primarily in wilderness or remote country where human activity is limited. High elevation areas appear to be preferred in summer, which may effectively separate wolverines and intensive human disturbance in most areas. In winter, wolverines move to lower elevations which are snowbound with very limited human activity. They do not significantly use young, dense stands of timber or clearcuts. The majority of activity occurs in large expanses of scattered mature timber, with some use of ecotonal areas such as small timber pockets, and rocky, broken areas of timbered benches. Heavy use of openings w/ good winter populations of big game, a principal source of carrion which makes up much of the wolverine's diet. They also feed on marmots, snowshoe hares, various rodents, insects, insect larvae, eggs, and berries. Rare documented sightings on the McKenzie River RD, mostly at higher elevations.</p>
<p><b>Pacific Fringe-tailed Bat</b> <i>Myotis thysanodes vespertinu</i></p>	<p>Rare in Oregon. Very little known about habitat in Oregon. Three captured in 1971 were associated with young coniferous forest. They are known to use caves, mines, rock crevices, and buildings as both day and night roosts. Nothing is known about habits in winter. Diet of moths, leafhoppers, lacewings, daddy-loglegs, crickets, flies, true bugs, and spiders. No recorded sightings on the McKenzie River RD.</p>
<p><b>Oregon Slender Salamander</b> <i>Batrachoseps wrighti</i></p>	<p>Live in forested areas, especially old-growth Douglas-fir and younger stands with abundant downed large logs. They lay their eggs under thick bark, inside a crevice in a log, or in talus. Juveniles and adults live under thick bark, inside partially decayed logs, or in debris piles around the bases of large snags. They also occur in moist talus w/ abundant woody debris. Documented sightings are scattered throughout McKenzie River RD at lower elevations.</p>

<p><b>Cascade Torrent Salamander</b> <i>Rhyacotriton cascadae</i></p>	<p>Live in very cold, clear springs, seeps, headwater streams, and waterfall splash zones. Forage in moist forests adjacent to these areas. Eggs are laid in rock crevices in seeps. Larve and adults live in gravel or under small cobbles in silt-free, very shallow water that is flowing or seeping. Adults may be found under debris on streambanks or in streamside forests and talus during rainy periods. Documented sightings from class IV stream headwater areas on McKenzie River RD.</p>
<p><b>Foothill Yellow-legged Frog</b> <i>Rana boylei</i></p>	<p>Live in sections of low-gradient streams with exposed bedrock or rock and gravel substrates. Attach eggs to the bottom of quiet scour-pools or riffles in gentle-gradient streams, often where there is only slight flow from the main river. Hatchlings cling to egg masses initially and then to rocks. Nearest known sightings are on private land adjacent to the Sweet Home RD to the northwest. No documented habitat or sightings on the McKenzie River RD.</p>
<p><b>Oregon Spotted Frog</b> <i>Rana pretiosa</i></p>	<p>Favor lakes and slow moving streams associated w/a permanent water source w/ a soft and muddy bottom. A marsh specialist w/strong preference/requirement for warmer waters; more aquatic than other ranids; often found in water or water's edge floating on the surface or resting on aquatic vegetation. Diet is invertebrates caught above and below the surface. Early breeders: egg masses are typically deposited on top of one another in a communal fashion, not attached to vegetation, and deposited in warmer shallow water, making them suseptible to mortality due to freezing or drying. The only documented population on the McKenzie River RD occurs in and around Penn Lake in the Three Sisters Wilderness Area.</p>
<p><b>Northwestern Pond turtle</b> <i>Clemmys marmorata marmorata</i></p>	<p>Inhabits marshes, sloughs, moderately deep ponds, slow moving portions of creeks and rivers. Observed in altered habitats including reservoirs, abandoned gravel pits, stock ponds, and sewage treatment plants. Occur from sea level to about 1,830 meters. Require basking sites, such as partially submerged logs, vegetation mats, rocks and mud banks, and may even climb a short way onto tree branches that dip into the water. They use uplands for egg laying, overwintering, and dispersal. They may move up to 500 meters and possibly more for overwintering where they burrow into leaf litter or soil. Nest distances from the water course ranges from 3 meters to over 402 meters. Most nesting areas are characterized by sparse vegetation, usually short grasses or forbs. Documented sightings on the McKenzie River RD are in lower elevation side-channels of the McKenzie River.</p>

Appendix 1: References for McKenzie River Ranger District Biological Evaluation. These were used to provide information summarized in Table 2, and they were used to determine potential impacts/effects of proposed projects.

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File Code: 2670  
Route To: Files

Date: April 16, 2002

Subject: Biological Evaluation and Biological Assessment for Fish Lake Remount Depot Projects

To: Stacy Smith – Team Leader

The purpose of this report is to document the potential effects of the proposed action on aquatic threatened, endangered, and sensitive species (TES species).

At present there are no aquatic organisms on the Region 6 Sensitive Species List so there is no requirement for analysis. There are however, two Federally listed aquatic species (both listed as threatened) in the McKenzie River. They are Upper Willamette spring chinook salmon (*Onchorhynchus tshawytscha*) and bull trout (*Salvelinus confluentus*).

#### Proposed Action

Actions are proposed to develop an interpretive gateway facility to the historic Fish Lake Remount Depot. There is a need to manage public entry into the Remount Depot to facilitate the educating the public about the significance of the historic site, including its protection and preservation, and to control visitor flow.

Actions proposed to develop a Fish Lake interpretive gateway facility may include:

- Replacement of existing or development of new ADA accessible toilet.
- Reconstruction of existing access roads to meet highway safety standards.
- Development of parking areas, pedestrian walkways, picnic facilities, interpretive sign kiosks, vehicle and pedestrian access controls.
- Restoration of lake shore riparian areas.
- Traffic flow reconfiguration and landscaping.

#### Effects Determination and Analysis

Fish Lake is approximately 8 river miles upstream of Tamolich Falls. Tamolich is a natural barrier to upstream migration of bull trout and/or spring chinook salmon. No resident bull trout have been located upstream of Tamolich Falls. Since no listed fish are known to exist above Tamolich Falls, the interagency Level One team has agreed that Endangered Species Act interagency consultation above Tamolich is not necessary. In addition to this fact, the physical characteristics of the river channel and lakes upstream of Tamolich will prevent any downstream effects to listed fish species.

Fish Lake is an ephemeral body of water. In the late winter and early spring there is water in the lake, but by summer the lake is typically dry. The outlet of the lake is a stream channel called



Fish Lake Creek which is also an ephemeral water body. Fish Lake Creek enters Clear Lake which is considered the “head” of the McKenzie River. As the river flows downstream of Clear Lake it eventually reaches Carmen Reservoir. The river channel downstream of Carmen Reservoir is ephemeral and only flows water seasonally. The McKenzie River eventually springs up at the base of Tamolich Falls. These characteristics are due to the volcanic geology of the area.

These physical characteristic (ie. ephemeral lakes and river channels, and a lake and reservoir between the action area and listed fish habitat) will prevent any project related sediment from affecting downstream habitat. The lakes/reservoirs would act as a “sink” and would capture fine sediments that were not suspended in the water column. The ephemeral channels would also serve as areas where sediment would deposit. During the time of year when the channels have surface flow, all systems in the upper McKenzie are mobilizing and transporting sediment. It would be impossible to measure the effect of project related sediment from 8 miles upstream and differentiate it from “natural” sediment production.

In addition to the physical characteristics that prevent any effects from being measured downstream in the bull trout and chinook areas, mitigation measure to prevent sediment transport will be implemented on any ground disturbing activities. That is, sediment fences or straw bales to prevent transport, and revegetation of exposed areas. In addition restoration of lake shore riparian habitat will reduce sediment impacts to Fish Lake.

Given the physical characteristics of the area, the mitigation measures, and the fact that there are no threatened, endangered, or sensitive species in the project area this project will have **no effect** on bull trout or chinook salmon.

RAMON RIVERA

District Fisheries Biologist



Date: 15 March 2002

File Code: 2670 Plants  
Subject: Fish Lake Recreation Project BE

### Purpose/Location

The purpose of this Biological Evaluation is to review the Fish Lake Recreation project in sufficient detail as to determine whether the proposed action will result in a trend toward Federal listing of any sensitive plant species.

The project is located on the McKenzie Ranger District, along State Highway 126, on a common corridor segment of the west Cascades and McKenzie Pass-Santiam Pass National Scenic Byways.

### Proposed Action

Actions are proposed to develop an interpretive gateway facility to the historic Fish Lake Remount Depot. There is a need to officially manage public entry into the Remount Depot in order to educate the public about the significance of the historic site, including its protection and preservation and visitor traffic.

This need for action has been identified in the McKenzie Pass-Santiam Pass Scenic Byway Management Strategy. Priority actions were listed in the management strategy document. Fish Lake is identified as a Priority One location to pursue redesign and development of interpretive facilities. The Fish Lake Special Interest Area Implementation Guide recommends development of a gateway interpretive site adjacent to the Remount Depot that targets national scenic byway visitors and onsite recreationists.

### Description of Alternatives

A. No action: There would be no changes to the project area.

B. One-way vehicle access flow into and out of Remount Depot. This alternative utilizes the existing access roads into the Remount Depot from Highway 126 for both entry and exit to the site through the current developed campground and the administrative road. It develops an interpretive facility and parking area within the Remount Depot and eliminate overnight use of the developed campground. The dispersed camping area would not be altered. Gates would be installed on both access roads, as well as the Santiam Wagon Road, north out of the Remount Depot. Hours of public use would be implemented with gate closures. Highway access safety modifications will be made for safe entrance and exit. Stock interface with vehicles would be mitigated through use of gates and established hours of use.

C. Vehicle access into the Remount Depot via existing administrative road and the development of two interpretive areas. This alternative develops a Remount Depot interpretive facility and parking area within the Remount Depot, using existing administrative road for vehicle access. Developed camping area is also modified to become a fully accessible (ADA) Fish Lake



interpretive site for day use only. Orientation signage is developed to direct visitors to developed Remount Depot access. New developments within the Remount Depot meet accessibility to greatest degree possible, recognizing the rest of the facility does not meet accessibility to greatest degree possible. The existing gate at the highway entrance is relocated further into the Remount Depot, but set back from the buildings to minimize intrusion on historic integrity. Parking area and vehicle turnaround is developed off the highway near the gate on the south side of the road to minimize numbers of trees to be removed. Gate is installed at north edge of campground to eliminate pedestrian and vehicle access to Remount Depot from Fish Lake interpretive site. Highway access safety modifications are made for safe entrance and exit from both facilities. Restoration of riparian areas is completed within Day Use facility at Fish Lake.

D. Development of an interpretive facility adjacent to Highway 126. This alternative develops a Remount Depot interpretive facility north of and including access to the administrative road into the Depot, along the west side of Highway 126. Existing gate is retained and road is used for administrative traffic and pedestrian and vehicle access to Remount Depot from the campground. Orientation signage is installed at campground to direct Remount Depot visitors to the developed interpretive facility. Highway access safety modifications are incorporated into parking and traffic flow design for the interpretive facility.

E. Development of a day use only interpretive facility at the existing developed campground location. This alternative develops an interpretive facility that focuses on both Fish Lake and the Remount Depot at the existing developed campground and eliminated overnight camping. A picnic area and accessible interpretive trail to Lake's edge are developed, with pedestrian controls to protect riparian area and restoration efforts. Existing road into Remount Depot from developed campground and parking area is used for pedestrian access. Highway access safety modifications are made. Stock interface with visitors is mitigated through established hours of use and gates. Stock is in corrals only during hours where administrative personnel are onsite, and are blocked from corrals during visitor use periods. A gate is installed at highway access into interpretive facility for increased management flexibility and to close outside of established public use periods.

#### Prefield Review

A prefield review of the proposed project area for plant species listed on the 2001 Regional Foresters List for the Willamette National Forest was conducted. No known sensitive plant populations were found during the prefield review. There is no potential habitat for sensitive plant species in the project area.

#### Survey Results

A survey of the proposed project area was conducted by Wes Messinger on August 3, 2000 and September 14, 2000. No sensitive plants or their associated habitat were observed during this survey.

#### Effects of the Proposed Project

The no action alternative will have no direct or indirect effect on sensitive plant species or their habitat because these species or their habitat are not present in the project area. The no action

alternative will have no cumulative effects on sensitive plant species because no sensitive plant species or their habitat are not present in the project area.

Implementation of any of the proposed alternatives for this project will have no direct or indirect effect on sensitive plant species or their habitat because these species or their habitat are not present in the project area. The proposed alternatives will have no cumulative effects on sensitive plant species or their habitat because sensitive plant species or their habitat are not present in the project area.

Determination

It is my determination that implementation of the no action alternative will have no effect on sensitive plant species or their habitat because neither sensitive plant species or their habitat are located in the project area.

It is my determination that implementation of Alternative B, C, D, or E will have no effect on sensitive plant species or their habitat because neither sensitive plant species or their habitat are located in the project area.

Prepared by: \_\_\_\_\_  
Susan Stearns, District Botanist  
McKenzie Ranger District

Date: \_\_\_\_\_

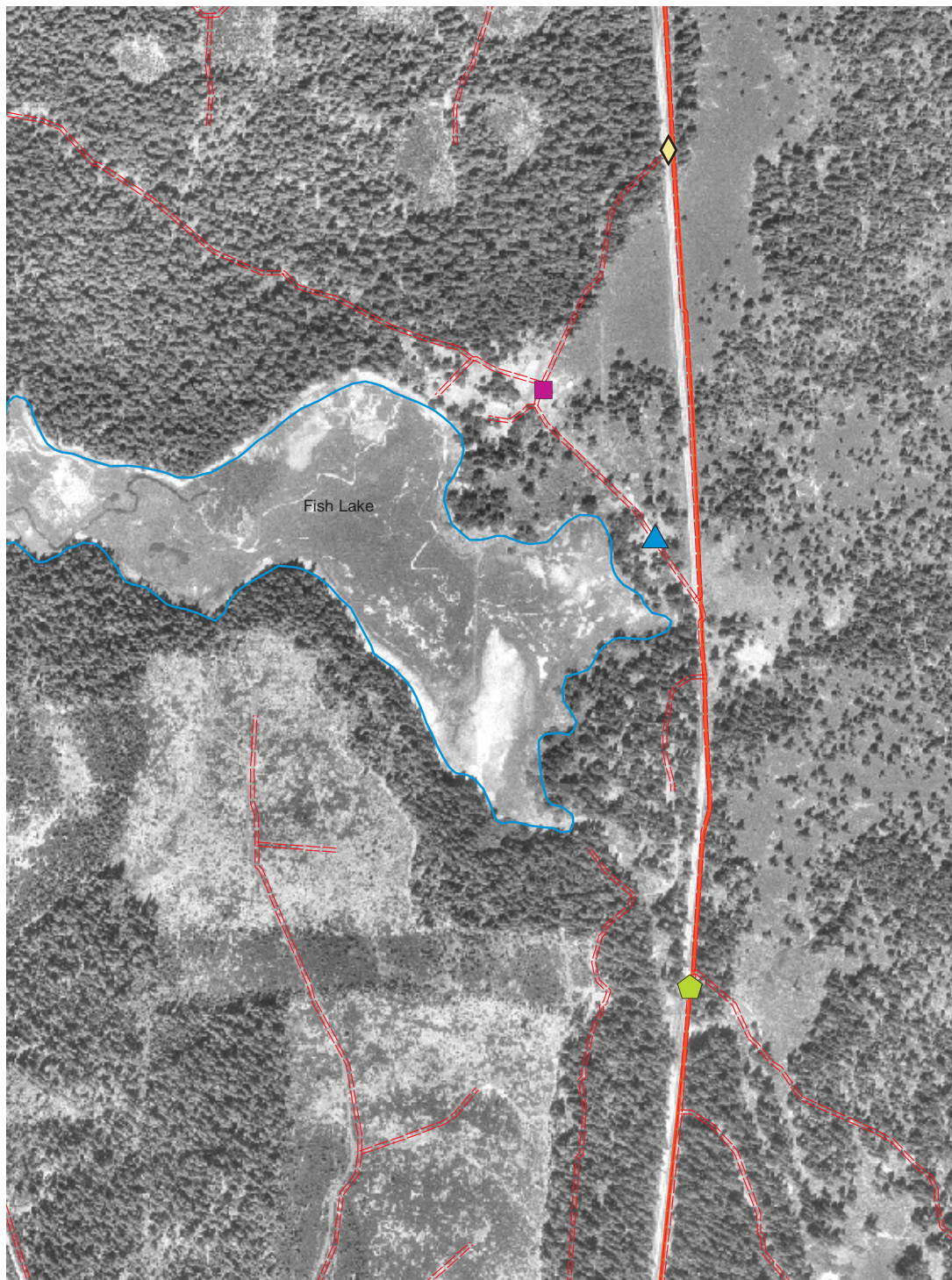
Reviewed by: \_\_\_\_\_  
Cheryl Friesen, District Wildlife Biologist  
McKenzie Ranger District


Date: \_\_\_\_\_

ATTACHMENT 1: 2001 Regional Forester's List of Sensitive Plant Species  
on the Willamette National Forest

Species	Habitat Present	Species Present in Project Area
Agoseris elata	N	N
Arabis hastatula	N	N
Arnica viscosa	N	N
Asplenium septentrionale	N	N
Aster gormanii	N	N
Aster vialis	N	N
Botrychium minganese	N	N
Botrychium montanum	N	N
Botrychium pumicola	N	N
Calamagostis breweri	N	N
Carex livida	N	N
Carex scirpoidea var. stenochlaena	N	N
Cimicifuga elata	N	N
Coptis trifolia	N	N
Corydalis aqua-gelidae	N	N
Frasera umpquaensis	N	N
Gentiana newberryi	N	N
Iliamna latibracteata	N	N
Lewisia columbiana var. columbiana	N	N
Lycopodiella inundata	N	N
Montia howellii	N	N
Ophioglossum pusillum	N	N
Pellaea andromedaefolia	N	N
Polystichum californicum	N	N
Potentilla villosa	N	N
Romanzoffia thompsonii	N	N
Scheuchzeria palustris var. americana	N	N
Sisyrinchium sarmentosum	N	N
Utricularia minor	N	N
Wolffia borealis	N	N
Wolffia columbiana	N	N

## Fish Lake EA



-  Admin Road, Alt D
-  Remount Depot, Alt B+C
-  Fish Lake CG, Alt C+E
-  McKenzie River Trailhead
-  Fish Lake
-  Roads
-  Highway 126

