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Agriculture

**Forest  
Service**

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2007



# **Environmental Assessment**

## **Santiam Pass Summer Motorized Recreation Project**

### **Non-Significant Forest Plan Amendment #49**

**McKenzie River Ranger District  
Willamette National Forest  
Linn County, Oregon**

**Legal Location: T.13S, R.7E, T.13S, R.7 1/2E, T.14S, R.7 1/2E, and T.14S, R.7 1/2E;  
W.M.**

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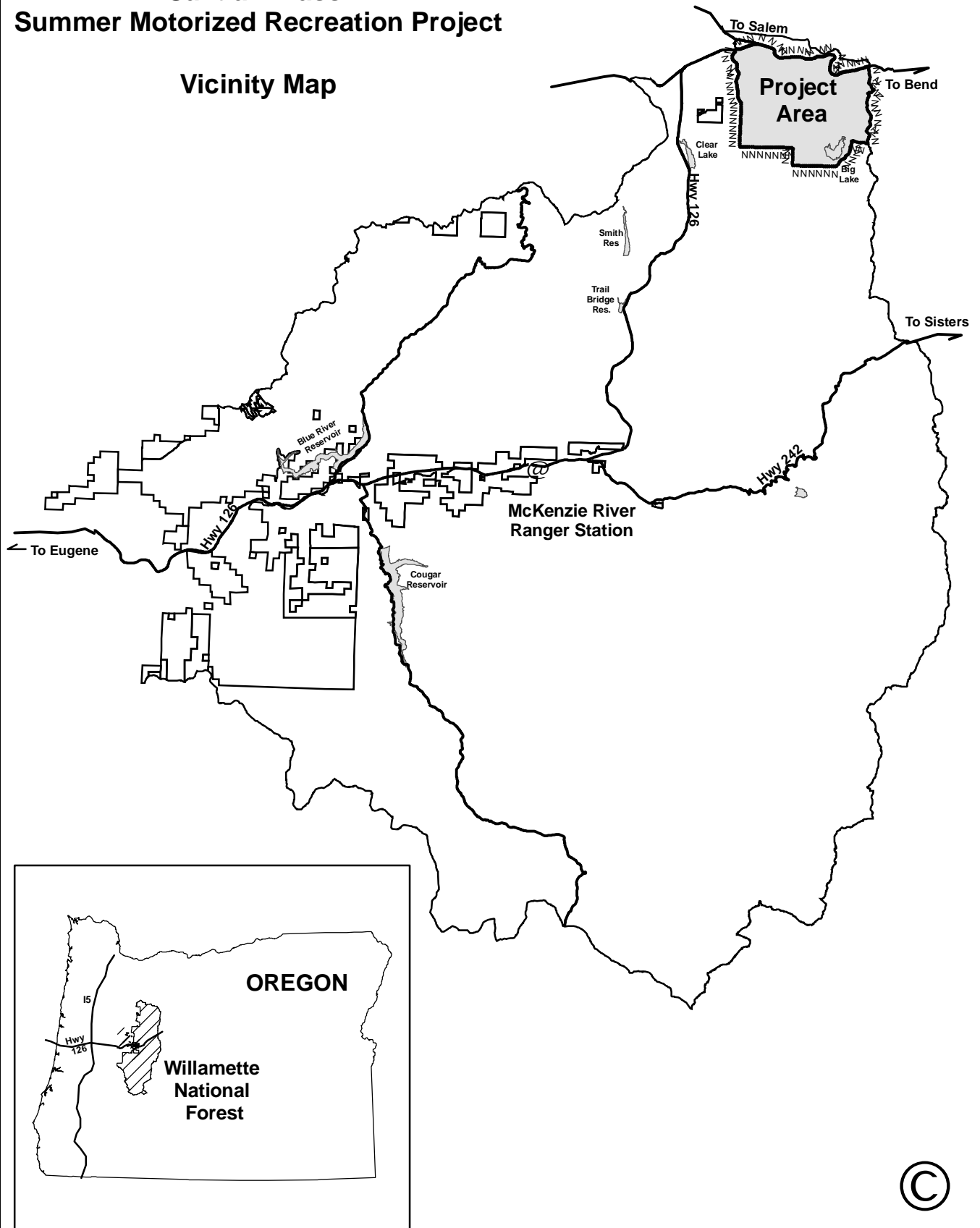
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**Figure 1**

**Willamette National Forest  
McKenzie River District**

**Santiam Pass  
Summer Motorized Recreation Project**

**Vicinity Map**



## Table of Acronyms:

ACS	Aquatic Conservation Standards
ATV	All Terrain Vehicle
DN/FONSI	Decision Notice/Finding of No Significant Impact
EA	Environmental Assessment
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
HPMP	Historic Properties Management Plan (Santiam Wagon Road)
IDT	Inter-disciplinary Team
MIS	Management Indicator Species
NEPA	National Environmental Policy Act
NFS	National Forest System
ODOT	Oregon Department of Transportation
ODFW	Oregon Department of Fish and Wildlife
OHV	Off-Highway Vehicle
ORV	Off-Road Vehicle
OSHA	Occupational Safety and Health Administration
PETS	Proposed, Endangered, Threatened, Sensitive species
PCT	Pacific Crest National Scenic Trail
ROD	Record of Decision
SEIS	Supplemental Environmental Impact Statement
SHPO	State Historic Preservation Office
SIA	Special Interest Area
SOPA	Schedule of Proposed Actions
SWR	Santiam Wagon Road
TES	Threatened, Endangered, or Sensitive Species
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WA	Watershed Analysis
WNF	Willamette National Forest

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# Chapter 1. Purpose and Need for Action

## Document Structure ---

The Forest Service has prepared this environmental assessment (EA) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This EA discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four parts:

- **Purpose and Need for Action:** The section includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. A section is included that details how the Forest Service informed the public of the proposal and how the public responded. This section also includes the relationship of the proposal to the 1990 Willamette Forest Plan, as amended.
- **Comparison of Alternatives, including the Proposed Action:** This section provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes possible mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- **Environmental Consequences:** This section describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by first disclosing the effects on significant issues, followed by the other issues addressed during scoping. Within each section, the affected environment is described first, followed by the effects of Alternative 1 – No Action, which provides a baseline for evaluation and comparison, and then the effects from action alternatives.
- **Consultation and Coordination – Agencies and Persons Consulted:** This section provides a list of agencies, tribal governments, and public consulted during the development of the environmental assessment and the list of preparers.
- **Appendices:** The appendices provide more detailed information to support the analyses presented in the environmental assessment.

Additional documentation, including detailed analyses of project-area resources, may be found in the project planning record located at the McKenzie River Ranger District Office in McKenzie Bridge, Oregon.

## Introduction

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The Santiam Pass Summer Motorized Recreation Project EA analyzes and discloses the proposal to designate roads, trails, and other areas for motorized recreation vehicle use within the 13,850-acre project area. The Santiam Pass Semiprimitive Motorized Management Area is a popular destination for off-highway vehicle (OHV)<sup>1</sup> enthusiasts, and the use of recreational OHVs has steadily increased in the Santiam Pass area over the last decade.

Scoping on the current initiative began in February 2005, with the release of a project scoping letter to interested public, agencies, and tribal governments. The letter presented the Proposed Action and preliminary issues arising from the proposal. The project area is located on the McKenzie River Ranger District (Figure 1) and bounded by Forest road 2676 on the west (roadway is included), U.S. Highway 20 on the north, the Willamette National Forest boundary and Pacific Crest divide on the east, and the Mt. Washington Wilderness Area boundary on the south. Public access into this area from U.S. Highway 20 is primarily by use of the paved Big Lake Road, or Forest road 2890.

Approximately 10,539 acres of the project area is identified as Management Area 10b, by the Willamette National Forest Land and Resource Management Plan, as amended, which is meant to provide Semiprimitive Motorized recreation opportunities. In addition to OHV recreation, the area is popular for many dispersed recreation activities such as dispersed camping, hunting, hiking, horseback riding, mountain-biking, highway legal vehicle driving for pleasure, and visiting the Sand Mountain Lookout.

In 1999, the McKenzie River Ranger District and Sisters Ranger District on the Deschutes National Forest, began a joint effort to create a plan for ORV management in a project area that included both sides of the Cascade Crest, to the south of Santiam Pass. This joint effort was cancelled in 2003, after public scoping and preliminary analysis indicated unique challenges for managing ORV use on each administrative unit. The National Forests concluded it was more appropriate to prepare separate plans for each ranger district. The Sisters Ranger District is in the process of analyzing a proposal motorized recreation management plan east of the Cascade Crest.

The project area currently has 68 miles of existing Forest system roads. Unmanaged OHV use has resulted in more than 10 miles of user-created tracks within the project area. Many dispersed day-use and overnight-use camping sites are located along Forest road 2890 and on portions of the historic Santiam Wagon Road, which runs through the project area from east to west. The Santiam Wagon Road is represented as Forest roads 2676-866, 2690-810, and 2690-811 within the project area. Approximately 3.4 miles of the Pacific Crest National Scenic Trail (PCT) is situated along the Cascade Crest on the east side of the project area. Other recreation sites in the project area include the Hoodoo Ski Area, under a special use permit, and the Big Lake Campground Complex (Big Lake Campground and Big Lake West Campground).

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<sup>1</sup> The terms off-highway vehicle (OHV) and off-road vehicle (ORV) will be used interchangeably throughout this document.

**Legal description of the project:** T.13S, R.7E, Sections 13-15, 22-27, 34-36; T.13S, R.7 1/2E, Sections 21-28, 33-36; T.14S, R.7 1/2E, Sections 1-3, 10-12; and T.14S, R.7 1/2E, Sections 1-4, 9-12, 15 and 16; Willamette Meridian; Linn County, Oregon.

## Purpose and Need for Action

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In 2003, then Forest Service Chief Dale Bosworth called unmanaged recreation, including OHV use, one of the top four threats to forest health in the nation (Bosworth. 2003). There has been an increase in OHV use in the Santiam Pass area over the past decade for all types of all-terrain vehicles or ATVs<sup>2</sup> as the popularity of this recreation has increased nationally. This increase in demand for OHV use has prompted this analysis of methods to manage motorized recreation while also maintaining a diversity of recreational opportunities unique to the area.

The purpose of this initiative is to develop and implement formal management of OHV use in the project area, which includes areas within the Santiam Wagon Road and Sand Mountain Special Interest Areas, the Big Lake Campground Complex, and the Hoodoo Ski Area. Actions that respond to this need must include protection of heritage resources and other natural resources in the area. The following specific needs have been identified for this project and are discussed in detail in this section:

- **There is a need to designate a system of roads and trails for motorized recreation vehicle use within the Santiam Pass Summer Motorized Recreation Project Area, as directed by the Willamette Forest Plan and existing policy.**
- **There is a need to rehabilitate existing motorized recreation vehicle-impacts to the Santiam Wagon Road, and to protect this important heritage resource from future impacts.**
- **There is a need to provide recreation opportunities in the project area that offer a quality family-oriented experience.**

### **1. There is a need to designate a system of roads and trails for motorized recreation vehicle use within the Santiam Pass Summer Motorized Recreation Project Area, as directed by the Willamette Forest Plan and existing policy.**

Forest Service policy, as stated in Forest Service Manual, FSM 2355, is to provide a diversity of off-road recreational opportunities when use is compatible with established land and resource objectives, use is consistent with resource capability and suitability, the off-road opportunity is an appropriate National Forest Recreation Activity, and there is a demonstrated demand for these opportunities

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<sup>2</sup> All-Terrain Vehicles (ATVs) as discussed in this analysis meets the definition of a Class I All Terrain Vehicle, described in Forest Service Manual 7730-2005-2, as a motorized off-highway recreational vehicle 50 inches or less in width, with a dry weight of 800 pounds or less, which travels on three or more low pressure tires, has a saddle or seat for the operator, and is designed for, or capable of, cross-country travel on, or immediately over, land, water, sand, snow, ice, marsh, swampland or other natural terrain (USDA Forest Service, 2005). The Glossary in this EA provides definitions for Class I, II, and III ATVs.

(USDA Forest Service. 2004). Forest Service Policy, as stated in Forest Service Manual 7731.03 (USDA Forest Service. 2005), directs managers to accept OHV use on roads when in accordance with state laws and regulations (36 CFR 212.5, E.O.11644) and when consistent with the Forest Plan. Use must be done safely, while protecting resources. Regulations at 36 CFR 212.51, directs designation of roads, trails, and areas open to motorized use (US Code of Federal Regulations 2006).

The amended 1990 Willamette Forest Plan recognizes the need for semiprimitive motorized use and it designates this project area for “*Dispersed Recreation, Semiprimitive Motorized with Timber Harvest*” (MA-10b). In addition, Forest-wide Standard and Guideline, FW-024, states that “A diversity of off-road vehicle recreational opportunities should be provided across the Forest where consistent with the criteria specified in FSM 2355.12. These criteria include:

- The use is compatible with established land management and resource objectives.
- The use is consistent with the capability and suitability of the resource.
- There is demonstrated demand which cannot be better satisfied elsewhere.

In designating this area as MA-10b, the Willamette Forest Plan demonstrates that this area is both compatible with established land management and resource objectives, and consistent with the capability of the resources. The popular use of the Santiam Pass area for motorized recreation by the public indicates that the project area satisfies a demand for OHV recreation not met elsewhere. However, the extent of development in any area will be based on an analysis of the resource conditions and resource protection needs of the site (Willamette Forest Plan pages IV-184 to IV-187).

There is a need to designate a system of roads, trails, and other areas within the project area to be consistent with Willamette Forest Plan management direction for MA-10b, to provide for maximum use for a range of activities that provide semiprimitive motorized experience.

Acknowledging the ongoing impacts to other forest resources that result from the unregulated OHV use of the area, there is now a need to restrict OHVs to the designated roads, trails, and site-specific areas. Recreational off-road vehicles are currently free to access many established Forest roads and trails and may go cross-country. User-created tracks from Class I, II, and III ATVs exist throughout the project area, connecting many of established roads and trails, and the network of user-created tracks increases annually.

## **2. There is a need to rehabilitate existing motorized recreation vehicle-impacts to the Santiam Wagon Road, and to protect this heritage resource from future impacts.**

The Eno and Sand Mountain segments of the historic Santiam Wagon Road lie within the project area as delineated by the Santiam Wagon Road Historic Properties Management Plan (HPMP) (Lindberg and Kelly. 2006). This 6.0 mile portion of the wagon road is identified as Forest system roads 2676-866, 2690-810, and 2690-811 along its historic route in the Willamette Forest Roads Analysis (See Chapter 2, Figure 5). Current use of these portions of the Santiam Wagon Road by recreational OHVs has altered the original historic profile and width of the road through road surface material displacement.



**Figure 2: Widening of the Santiam Wagon Road by ATVs.**

The vigorous, high speed use of Class I ATVs and Class III ATVs has resulted in a widening and deepening of the road bed, exposure of large rocks and the build up of sand moguls. Many user-created OHV trail crossings along the wagon road have also contributed to road surface material displacement and road widening.

Considering that this historic road is eligible for inclusion to the National Register of Historic Places, there is a need to rehabilitate Santiam Wagon Road to the original profile and width. There is also a need for action to protect this heritage resource from further impacts from recreational OHV use.

**3. There is a need to provide recreation opportunities in the project area that offer a quality, family-oriented experience.**

The Santiam Pass area offers opportunities for both motorized recreational vehicle riding, and for non-motorized recreation, which includes driving passenger vehicles for sightseeing, and hiking and horseback riding on the Pacific Crest Trail, Patjens Lake Trail, or several other less popular trails. Sand Mountain Lookout is a popular destination for sightseeing and can be accessed most of the way

to the lookout by Forest road 2690-810. The project area is adjacent to Inventoried Roadless Areas and Wilderness Areas, and it is a popular destination for big game hunting in the fall.

The area has become known as a destination for both day-use and overnight OHV recreation. Visitors that come to this area to enjoy OHV riding choose dispersed camping at many of the existing sites along the Big Lake Road and Santiam Wagon Road, or they may use developed camp sites at Big Lake Campground Complex.

Considering the high use of the project area for dispersed recreation of all types, there is a need to manage for a range of activities that contribute to a semiprimitive motorized experience, consistent with the Willamette Forest Plan. This range of activities should blend motorized and non-motorized to provide for recreational opportunities for a quality family-oriented experience.

## **Proposed Action**

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The District Ranger on the McKenzie River Ranger District proposes to implement actions in response to the needs stated above. The Proposed Action, essentially represented by Alternative 2 in this EA, proposes to designate a system of Forest roads and trails for recreational OHV use along with other actions listed below. This Proposed Action satisfies the need to provide a designated system of roads and trails for motorized recreation within the project area as directed by the Willamette Forest Plan and agency policy, to rehabilitate existing motorized recreation vehicle-impacts to the Santiam Wagon Road while protecting this heritage resource from future impacts, and to provide recreation opportunities in the project area that offer a quality family-oriented experience.

Alternative 2 was described in the scoping letter of February 3, 2005, although several route locations and ATV class designations for roads were altered in the IDT review process and after field surveys. Other refinements included moving the staging area at the junction of the Big Lake Road and Santiam Wagon Road to a location to the north and outside of the Santiam Wagon Road SIA corridor (junction of 2690 and 2690-810), reducing the size and moving the Open Play Area to outside of the Santiam Wagon Road SIA (junction 2676-866 and 2690-810), and reducing the size of and moving the Kiddie Loop youth learning trail to outside the Santiam Wagon Road SIA. The Regulated Camping Zone has been expanded to include the entire Santiam Wagon Road SIA within the project area, the Big Lake Road from Ray Benson Sno Park south, and the Big Lake Campground Complex.

Alternative 2 was also changed to include posted speed limits on the historic Santiam Wagon Road, which would be enforced as specified in a Forest Order signed during implementation. The speed limits are intended to protect historic resources by reducing the displacement of road surface material that occurs from high speed motorized mixed-use travel. Speed limits would provide for a safer environment near congested areas near dispersed camping areas in the Regulated Camping Zone.

Alternative 2 includes Non-significant Forest Plan Amendment #49, which would take actions specified in a Forest Order signed during implementation. Implementation would begin in the summer of 2008.

## Non-Significant Forest Plan Amendment #49

This non-significant amendment includes three components:

### 1. A One-time Exemption of Management Area Standard and Guideline MA-5a-01 and MA-10b-01.

**MA-5a-01:** An Implementation Guide shall be prepared for each SIA describing the site specific management objectives, enhancement programs, and other acceptable uses and activities.

Implementation Guides have not been completed for either of the Special Interest Areas in the project. However, management of the Santiam Wagon Road SIA would follow management recommendations included in the Santiam Wagon Road Historic Properties Management Plan (see Chapter 3, Heritage). Alternatives were designed to consider the same elements of restoration and enhancement of the historic features that would be inherent in the Implementation Guide to be completed for the Santiam Wagon Road SIA.

The Sand Mountain SIA is currently under Forest Closure Order #110, which prohibits the possession or use of a vehicle, pack animal, or bicycle off Forest road 2690-810. Action taken in this SIA are limited to different options for travel access on Forest road 2690-810 within the SIA .

**MA-10b-01:** An Implementation Guide shall be prepared for each Semiprimitive Motorized area describing the site specific management objectives, enhancement programs, and other acceptable uses and activities.

An Implementation Guide has not been completed for MA-10b within the project area. However, all action alternatives were developed while considering site specific management objectives, enhancement programs, and other acceptable uses and activities within this management area. These criteria will be incorporated into the Implementation Guide that will be subsequently prepared for the project area to guide future management.

### 2. The Addition of Management Area Standard and Guideline MA-10b-04a.

For Alternative 2, Management Area Standard and Guideline **MA-10b-04a** would be added to the Willamette Forest Plan (USDA Forest Service. 1990, page IV-185). This amendment would restrict OHV use in the project area to only designated roads, trails, and other specified areas, meeting the need to protect resources from unregulated OHV use. This action would change the “Open” designation, as mapped in the 1990 Willamette Forest Plan Map, to “Closed” for all of Management Area 10b within the Santiam Pass Summer Motorized Recreation Project Area. The exceptions to this change would be made for the designated Open Play Area north of Sand Mountain SIA in Alternative 2 (see Chapter 2, Figure 6 – Map of Alternative 2).

Existing Standard and Guideline MA-10b-04:

**MA-10b-04**, Access by motorized vehicles shall be limited to snowmobiles, trail bikes and ORVs not greater than 45 inches in width. The general area is open to off-road vehicle use off designated roads and trails.

Proposed Standard and Guideline **MA-10b-04a**, only applicable to the project area:

**MA-10b-04a**, Within the Santiam Pass Summer Motorized Recreation Area, access by wheeled motorized vehicles on designated Forest Service trails shall be limited to trail bikes and ORVs not greater than 50 inches in width or over 800 pounds vehicle weight. The general area is **not** open to off-road vehicle use off designated roads, trails or other specified areas.

### **3. Management Area Change from MA-10e, to MA-10b Along Forest Winter Trail #3558 and Forest Road 2690-910.**

For Alternative 2, Forest Plan Amendment #49 also changes the Management Area designation of two corridors of National Forest System land from MA-10e, Dispersed Recreation, Semiprimitive Nonmotorized, to MA-10b, Dispersed Recreation, Semiprimitive Motorized (Willamette Forest Plan, page IV-184 to IV-195):

- a) **A 12 foot wide corridor would be re- designated as MA-10b on the location of winter snowmobile trail #3558, from the east termini of Forest road 2690-920 near the Pacific Crest Trail to the Willamette National Forest boundary at the Cascade Crest. This change in Management Area allocation would be implemented with the construction of a designated OHV trail for Class I and III ATVs on existing user-created tracks.**
  
- b) **A 60 foot wide corridor would be re-designated as MA-10b along Forest road 2690-910 from the intersection of Forest road 2690-928 to the Forest boundary at the Cascade Crest, and it is designated for highway legal vehicles only.**

As previously mentioned, Sisters Ranger District of the Deschutes National Forest is currently involved in road management planning, which may result in designated roads and trails for OHV use on the Deschutes, east of the Santiam Pass Summer Motorized Recreation Project area. Both of these travel corridors could provide connecting routes to the east side of the Cascade crest for access to existing roads and trails on the Sisters Ranger District.



**Alternative 2 also implements these actions:****ATV Trail System Designation**

- Designate 37.3 miles of Forest Road open to Motorized Mixed Use.
- Designate 7.6 miles of Forest Road open to ATV Class I & III only.
- Close 16.3 miles of Forest Road to motorized use.
- Reconstruct 4.4 miles of user created tracks, which would be open to ATV Class I & III.
- Construct 7.9 miles of new motorized trails open to ATV Class I & III.
- Close 5.6 miles of user-created tracks to all motorized use and rehabilitate.

**Santiam Wagon Road**

- Designate approximately 6.0 miles of the Santiam Wagon Road as open to Motorized Mixed-Use.
- Rehabilitate all 6.0 miles of the Santiam Wagon Road as needed to the approximate historic route, profile, and width, and close and rehabilitate some user-created OHV crossings.
- Designate 8 clearly marked OHV crossings to protect the wagon road.
- Establish and post speed limits on the Santiam Wagon Road that applies to the Eno and Sand Mountain road segments within the project area (HPMP). A Forest Order for speed limits would include Forest road 2676-866 from the Eno road 2676 to the junction with 2690-810, Forest road 2690-810 from the junction of 2676-866 to the junction the Big Lake Road 2690, and Forest road 2690-811 from the junction of 2690 to the Forest boundary.

**Staging Area Development**

- Establish two day-use staging and parking areas for off-loading OHVs from trailers, with one located along the junction of the Big Lake Road 2690 and south side of 2690-860 and the other north of the junction of Forest roads 2690 and 2690-810, but outside of the Santiam Wagon Road SIA. User education and information kiosks and toilet facilities would be included at each site.

**Dispersed Camping in the Regulated Camping Zone**

- Designate 34 dispersed campsites within the Regulated Camping Zone along Big Lake Road 2690, and along the Santiam Wagon Road, Forest roads 2690-810 and 811. All 34 designated campsites would access the motorized trail system.
- Block and rehabilitate 13 existing dispersed campsites that are not incorporated into this action (21.9 acres restored).

**Open Play Area**

- Designate approximately 22 acres as Open Play Area within the sand blowout feature that exists at the junction of the Sand Mountain lookout road 2690-810 and Santiam Wagon Road 2676-866 portion.

**Kiddie Loop**

- Establish a Kiddie Loop youth learning trail on approximately 18 acres north of Big Lake Campground, and between the Big Lake Road 2690 and Santiam Wagon Road, 2690-810.

## Decision Framework ---

The Responsible Official for this proposal is the Forest Supervisor of the Willamette National Forest. Considering the purpose and need stated above, the Responsible Official reviews the proposed action and the other alternative actions in order to make the following determinations:

- The proposed actions as analyzed, comply with the applicable standards and guidelines found in the Willamette Forest Plan and all laws governing Forest Service actions, except where standards and guidelines are modified by the action.
- Sufficient site-specific environmental analysis has been completed.
- The proposed actions benefit the public and are in their best interest.

With these assurances the Responsible Official must decide:

- Whether or not to accept the Proposed Action or one of the alternatives, which includes Alternative 1 – No-Action, and what, if any, additional actions should be required.
- Whether the selected alternative is consistent with the Willamette Forest Plan, if the Forest Plan shall be amended in this action, and whether or not the context and intensity of the Forest Plan amendment constitutes a significant effect.

## Issue Development ---

### Scoping and Public Involvement

Scoping is the process for determining issues relating to a proposed action and includes distribution of information about the project, review of written and oral comments, interdisciplinary Team (IDT) review, public meetings, local news releases, and tribal consultation.

The first initiative began as the Santiam Pass Dispersed Recreation project on March 19, 2002, with District Rangers from both the McKenzie River Ranger District and the Sisters Ranger District, Deschutes National Forest co-signing a Project Initiation Letter (PIL). It was listed in the November 2002 Willamette Forest Focus, the quarterly Schedule of Proposed Actions (SOPA) for the Willamette National Forest.

In 2004, the decision was made to prepare a separate analysis for each Ranger District, and a second PIL was signed by the McKenzie River Ranger District Ranger on June 15, 2004. This PIL revised the scope of the project to only include National Forest System lands west of the Cascade crest, or on the McKenzie River Ranger District.

A public scoping letter was mailed on February 3, 2005, to a mailing list that included four tribal governments, and other state and federal agencies, and individuals (see Chapter 4). The scoping letter described the revised proposed action, preliminary issues, and a timeline for completion, and a map of the proposal. Public response to this mailing resulted in over 200 comments in letters and emails.

The 2005 proposed action was presented to the Confederated Tribes of the Grand Ronde and the Confederated Tribes of the Siletz Indians at annual McKenzie River District program of work meetings, from 2005 through 2007.

Two public meetings were held in 2005. The first meeting occurred on Saturday, May 14, 2005, at the Red Lion Hotel in Eugene, Oregon. A second meeting was held on Tuesday, May 24, at the Camp Sherman Fire Station in Sisters, Oregon. A wide range of concerns were raised early in the scoping process, both from letters and emails received as well as from those attending the two public meetings. All scoping comments have been reviewed by the IDT and Responsible Official, and were taken into consideration to refine the proposed action (Alternative 2 in this analysis), and were instrumental in developing action alternatives. Comments received in response to the proposed action indicated a very polarized public on the topic of managing roads and trails for motorized recreation on the National Forest in general, and in particular, within the Santiam Pass Summer Motorized Recreation project area.

Several individuals, groups, and representatives of state agencies, such as the Oregon Historic Trails Advisory Council, advocate protecting and restoring the Santiam Wagon Road by reducing the use of ATVs on or near the wagon road. Several letters urged eliminating ATVs entirely from the Santiam Wagon Road since it is eligible for inclusion in the National Register of Historic Places.

Many comments were in support of the proposed action and favored further development of OHV use in the project area. Several proponents voiced concern about the lack of opportunities for four-wheeled vehicles, or Class II ATVs. Many of the supporters of the proposed action recognized the need to educate OHV users on appropriate riding behavior and resource protection. Proponents of OHV use also identified the need for adequate maps, signs, and for staging areas that include sanitation facilities.

A comment repeated in several letters and vocalized during the two public meetings was that user conflicts sometimes exist between motorized and non-motorized recreation in the area. Conflicts identified in scoping were between OHV user and horseback riders, mountain bikers, hikers, and non-motorized recreation campers at both the Big Lake Campground and at dispersed campgrounds along the Big Lake Road and Santiam Wagon Road. Many expressed the need to protect the Pacific Crest Trail (PCT) from incursion by ATVs, and that any road and OHV trail crossing over the PCT kept to a minimum. Concerns were expressed about apparent natural resource damage from unregulated OHV use, i.e. disturbance of soil and vegetation on user-created tracks, and a continuing expansion of dispersed campsites into vegetated areas. There were also concerns about degradation of visual esthetics by user-created OHV tracks within the Santiam Pass area, particularly along the two main travel routes, the Big Lake Road and Santiam Wagon Road.

Hoodoo Ski Area expressed a concern that the proposal would not only encourage but increase cross country travel on Hoodoo Ski runs. Hoodoo Recreation Services Inc. expressed concerns about impacts to Big Lake Campground Complex from use of the campground facilities by adjacent dispersed campers who do not pay campground fees but use facilities including toilets and dumpsters. Visitors and staff at Sand Mountain Lookout, as well as from campers at Big Lake Campground also find that the noise and dust from OHVs adversely affect their recreation experience.

Sand Mountain Society, whose members staff the Sand Mountain Lookout in the summer, also expressed a concern about continued violations of an existing Forest Order which prohibits off-road and off-trail use by motor vehicles, mountain bikes, or stock within the Sand Mountain Special Interest Area. Sand Mountain Society also stated concerns about traffic hazards and close calls from meeting speeding ATVs that travel Forest road 2690-810, the narrow and steep access road to Sand Mountain Lookout.

Comments from supporters and those not supporting the proposal have both expressed concerns about the lack of management and enforcement of current OHV use in this area. The majority of the public have expressed safety concerns relating to motorized mixed-use along the two main travel routes. Many commenters question how a designated OHV area as proposed, could be effectively managed as the Forest Service recreation budgets declines, and what alternative funds would be available for on-site presence of law enforcement to enforce the new rules.

## Significant Issues

The Forest Service has separated issues into two groups: significant and non-significant issues. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations require this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." A list of non-significant issues and reasons regarding their categorization as non-significant may be found in the project record.

In addition to significant issues identified by the IDT, the EA includes "other analysis issues" addressed in the effects analysis and often used to compare alternatives. For example, heritage resources would always be addressed in actions that are site-specific and ground-disturbing. Although alternatives may not be designed specifically to address heritage resources, the consequences of all the alternatives must be measured against compliance with direction to provide adequate protection for these resources (see Other Analysis Issues and Concerns).

Significant Issues are tracked through issue identification (in this chapter), alternative description in Chapter 2, and environmental consequences in Chapter 3, and have measurement indicators to allow members of the public and the Responsible Official to determine how well issues are addressed by the alternatives. The Forest Service identified three issues raised during scoping that are considered to be Significant Issues.

### Issue 1. Santiam Wagon Road Special Interest Area (SIA)

The proposed action may affect qualities of "significance of eligible and potentially eligible historic properties" in the Santiam Wagon Road, and may also affect the Santiam Wagon Road SIA. Specifically, by designating motorized use for all classes of ATVs, numerous OHV crossings, dispersed camping, staging areas, the open play area, and the Kiddie Loop youth learning trail area,

there may be continuing, long-term adverse effects to the Santiam Wagon Road and the Special Interest Area.

The Santiam Wagon Road within the project area is designated as a Forest system road from Eno Road, 2676, onto the Deschutes National Forest at the cascade crest. The route is represented as Forest roads 2676-866, 2690-810, and 2690-811, which are currently open to motorized mixed use. These roads are native surface and do not receive regular road maintenance. In 1990 the Willamette Forest Plan designated the land along the Santiam Wagon Road as a 660 foot wide SIA corridor, recognizing it as a unique historic feature on the Forest. Because the primary emphasis of the SIA is recreation, the Forest Plan states that management activities will be directed toward resource protection, and the extent of development of any area will be based on an analysis of the resource conditions and protections needs of the site (Willamette Forest Plan, page IV-138).

The effects of this project on the Santiam Wagon Road SIA will be evaluated by the following criteria:

- Miles of wagon road that is restored to the historic width and profile.
- Number of designated OHV crossings provided.
- Number of designated dispersed camp sites provided in the SIA, and acres of dispersed camp sites removed and restored.

## **Issue 2. OHV Spectrum of Opportunity**

The current management situation in the project area allows unregulated OHV use. The proposed action of designating a system of trails for OHVs on Forest roads and on constructed trails, while restricting travel to the designated trail system with Forest Plan Amendment #49, is likely to reduce the spectrum of opportunity for recreational OHV use in this area.

The OHV user is expected to experience a change in opportunity and riding experience due the extent of miles the designated trail system provides for each class of ATV. There may be a change in the level of challenge for riders on the designated motorized trail system, and in the opportunity for vistas available from the trail system. Constructing the day-use staging areas, and designating the open play area and the Kiddie Loop youth learning trail area may add opportunities for OHV recreation for some users.

The effects of this project on OHV Spectrum of Opportunity will be evaluated by:

- Miles of roads open to Class I and III ATVs.
- Miles of constructed trails open to Class I and III ATVs.
- Miles of roads open to Class II ATVs.

## **Issue 3. Recreation User Conflicts**

The project area has seen a steady increase in OHV use over the past decade, in part due to an increase in popularity on a national level. OHV users have made the project area a destination for weekend recreation and summer holiday gathering, sometimes camping in large groups at dispersed campsites along the Big Lake Road and Santiam Wagon Road. ATV design and handling characteristics have

improved over the past ten years which allows a wider age range of user participation and the ability to operate in more demanding terrain. Use patterns within the project area have also changed from mostly forest road use, with occasional off- road use into open areas, to wide ranging off-road use that has established an extensive system of user-created tracks in the project area.

Scoping comments have indicated there is also public concern about inappropriate intrusion of ATVs onto the Pacific Crest National Recreation Trail from multiple road intersections and user-created track crossings. The non-motorized recreating public has also expressed concerns that they are being displaced at the popular dispersed campsites and are impacted by dust and noise associated with unrestricted motorized recreation activity.

The expansion of the use of dispersed campsites along the Big Lake Road and Santiam Wagon Road by campers with ATVs, often in close proximity to Big Lake Campground has forced a change in use patterns. Identifying or designating dispersed campsites for exclusive use by either campers with ATVs or to non-motorized recreation campers would be impractical. However, where there are dispersed campsites in the regulated camping zone without direct motorized trail access, the campsites become less desirable for campers with ATVs because to gain access to the motorized trail system campers would have to trailer their ATVs to a staging area for offloading. Designated campsites without direct access to the motorized trail system may become available to non-motorized recreation campers.

The effects of this project on the issue of Recreation User Conflicts will be evaluated by:

- Designated dispersed camping sites with direct access to motorized trail system.
- Designated dispersed camp sites without direct access.
- Motorized intrusions, or crossings along the Pacific Crest National Scenic Trail.

## Other Issues and Concerns

These *other issues* were addressed in project development. The issue statements below are followed by reasons why they were not considered significant to the development of alternatives and were not fully analyzed in the EA. However, they may serve as important factors to qualitatively evaluate differences between alternatives.

### Soils

As a result of recreational OHV use, soils displacement has occurred along a network of existing user-created tracks adjacent to native surfaced Forest roads and trails, in and near dispersed camping sites, and near the sand blow-out area adjacent to Sand Mountain SIA. The public has expressed concerns that the proposed action to allow OHV use to continue within these areas would contribute to additional damaging soil displacement.

The young volcanic terrain originating from eruptions of vents in the Sand Mountain complex has experienced little subsequent glacial alteration. Consequently, this landscape has relatively low relief and is composed of recent basalt and andesite flows with coarse volcanic cinder soils. These soils are

droughty and cold, and develop vegetative cover very slowly. The soils are prone to mechanical displacement when disturbed, but due to high infiltration rates that limit runoff, they typically do not travel far as a result of water borne erosion. Streams are relatively scarce in this landscape due to the lack of glaciation, and to the relative youth of the terrain where erosion has not yet created a drainage network.

Mechanical displacement associated with disturbance has little real effect on soil productivity in these young coarse-textured soils, and the lack of runoff and low stream density in the area minimizes concerns relating to sediment yield. However, soil disturbance resulting from OHV use results in long lasting alteration of the natural visual landscape. This disturbance also tends to disrupt or destroy fragile plant communities in this harsh environment and the integrity of archaeological sites.

This issue was not considered significant for development of alternatives because all action alternatives would include the rehabilitation of some of the user-created tracks that are not incorporated into this action, and rehabilitation of other areas of displaced soil. All designated roads and trails would be designed to minimize future impacts resulting from soil displacement, or the displacement of road surface material onto adjacent areas. In addition, all alternatives include a non-significant amendment to the Willamette Forest Plan that would restrict motorized recreational vehicles to designated roads and trails in MA-10b.

### **Sand Mountain Special Interest Area (SIA)**

The Sand Mountain Special Interest Area was designated in the Forest Plan because of special geological features. This 363-acre SIA consists of a pair of volcanic cinder cones, with a restored and operating fire lookout on one of the cones. Members of the Sand Mountain Society serve as fire lookouts during the summer months under a cooperative agreement with the Forest Service.

The proposed action would continue the current level of OHV access to areas within the Sand Mountain SIA. The proposed action would designate Forest road 2690-810 as open for motorized mixed-use that includes Class I, II, and III ATVs and highway legal vehicles. Road 2690-810 provides access to the saddle below the cinder cone where the fire lookout is located.

The Sand Mountain Society has expressed several concerns about OHV use within the SIA. They have a particular concern for safety on Forest road 2690-810. Class I and III ATV use on the narrow one-lane access road has lead to accident near-misses in the past. SMS also has concerns with the disturbance of soil resources from off-road use in the SIA. The steep, upper slopes of the volcanic craters have been affected by ATVs on occasion in the last decade, which has resulted in several deep vertical ruts.

This issue was not considered significant for the development of alternatives because although the proposed action would not change current access to the saddle below the lookout for motorized mixed-use travel, existing safe driving laws will be enforced on the Sand Mountain access road as they are for all Forest roads. In addition, Forest Order #110 (a Special Closure Order) signed by the Forest Supervisor in September 1997, currently prohibits any type of off-road or off-trail travel within the Sand Mountain SIA by motorized vehicles, mountain bikes, or stock. Forest Order #110 would remain in effect under any alternative.

Alternative 3 would close Forest road 2690-810 at the junction of 2690-860 except for administrative use. Public access to the saddle below the lookout would be limited to non-motorized means. Alternative 4 would allow access to the saddle below the lookout by highway legal vehicles only.

### **Threatened, Endangered, Sensitive, and Other Wildlife Species of Concern (TES)**

Development of roads and trails for OHV use may disturb TES wildlife species and their habitat in the Santiam Pass Summer Motorized Recreation Project area.

This issue was not considered significant for the development of alternatives because location of OHV trails within forested habitat would be required to follow conservation and protection guidelines in the Willamette Forest Plan. Trail development would not occur in the vicinity of nest sites of threatened or endangered or sensitive wildlife species. Design measures and mitigation measures address this issue in Chapter 2. The effects of the proposed action and the other alternatives on TES species are addressed in Chapter 3. In addition, the proposed action and all action alternatives would include a non-significant amendment to the Willamette Forest Plan to restrict OHV travel to designated roads and trails within MA-10b.

### **Hoodoo Ski Area/Hoodoo Recreation Services**

Hoodoo Ski Area, a developed Special Use Permit Area (MA-12b) is entirely within the project area. The special use permit holder for Hoodoo Ski Area submitted scoping comments and expressed concerns that the proposal to designate OHV routes adjacent to or within the special use permit area may lead to cross-country recreation OHV use on ski runs.

This issue was not considered significant for the development of alternatives because the proposed action and all action alternatives would designate Forest roads and trails for OHV use. All alternatives address this issue by providing informational kiosks at staging areas to educate and inform the public of posted rules and Forest Orders, which would be enforced. Proposed designated OHV routes near Hoodoo lodge could enhance commercial opportunities for Hoodoo Ski Area and offer added benefits to the public. Forest Plan standards and guidelines do not allow off-road vehicle use within MA-12b, which would be enforceable through a Forest Order upon implementation.

Another issue emerged from comments by the same permit holder, who also manages Hoodoo Recreation Services Inc, and presently holds the concessionaire permit for Big Lake and Big Lake West campgrounds. Hoodoo Recreation Services is responsible for the operation and maintenance of the developed sites in this campground complex. Services available at the campgrounds include potable water, toilets, dumpster service, as well as a campground host. Hoodoo Recreation Services' concern is that continued dispersed camping near Big Lake Campground would continue the impacts of unauthorized use of the facilities by dispersed campers, particularly use of the toilets and garbage dumpsters within the campground. At this time, many of the favored sites for dispersed camping lie along the Santiam Wagon Road in close proximity to Big Lake Campground.

This issue was not considered significant for the development of alternatives because the concern relates to activities that depend on enforcement of existing regulations. In addition, the proposed



action and all action alternatives would restrict dispersed camping adjacent to the campgrounds, reduce the current number of adjacent dispersed sites, and regulate dispersed camping along the Santiam Wagon Road.

### **Heritage Resources**

Implementation of the proposed action may result in a continuation of ground disturbance that could affect unknown heritage sites. Undiscovered cultural resource sites may be subject to Section 106 documentation of effect for Heritage Resources due to the location on Forest Service land.

This issue was not considered significant for the development of alternatives because the project area was surveyed for heritage resources, and all action alternatives would avoid known sites. Should previously unknown sites be found during ground disturbing activities such as constructing new trails or staging areas, contract provisions would provide protection measures and the McKenzie River District Archaeologist would be immediately notified. In addition, all alternatives would include a non-significant amendment to the Willamette Forest Plan to restrict OHV travel to designated roads and trails in MA-10b to reduce the likelihood that unknown sites would be impacted by future OHV use.

### **Sensitive Plants and Special Habitats**

Designation of OHV routes may affect sensitive plants species and unmapped special habitats that may exist in the project area. Three of the known trail locations and some user-created tracks are located in bunchgrass habitat, which has the potential to contain plants that are considered sensitive.

This issue was not considered significant for the development of alternatives because no sensitive plant species were discovered during surveys of potential habitats. No designated OHV roads or trails are located within areas that are known to contain sensitive plants. The proposed action and all action alternatives include a non-significant amendment to the Willamette Forest Plan that would restrict ATV travel to only designated roads and trails in MA-10b, which would improve protection of undiscovered sensitive plants that may be present in the bunchgrass meadows.

### **Noxious Weeds**

The proposed action may continue the spread of noxious weeds in the project area from the use of recreational OHVs on designated roads and trails. Noxious weeds are plants not native to the ecosystem and considered invasive.

Currently, unregulated OHV use is creating favorable conditions for noxious weeds in the area by disturbing soils and carrying seeds in the organic debris often found on ATVs brought in from other locations. Soil displacement during off-road or cross-country OHV use can have an adverse effect on native plant communities associated with the volcanic soils of the area because they are generally shallow-rooted and not capable of withstanding mechanical disturbances. The existing disturbance is providing the opportunity for noxious weeds to be established.

This issue was not considered significant for the development of alternatives because prevention measures would be used for all action alternatives to prevent expansion of existing populations. (See Mitigation Measures and Design Measures in Chapter 2.) Control under the Willamette National Forest Integrated Weed Management Environmental Assessment provides for on-going treatment of

the existing populations (USDA Forest Service. 2007). In addition, all action alternatives include a non-significant amendment to the Willamette Forest Plan to restrict OHV travel to designated roads and trails within MA-10b in the project area.

### **Visual Quality**

A concern was received during scoping that past and current recreational OHV use has an adverse affect on visual quality. The project area has numerous user-created tracks that intersect and parallel both the Big Lake Road and the Santiam Wagon Road.

Almost all of the designated OHV routes proposed would be within Management Area 10b, Dispersed Recreation – Semiprimitive Motorized. The scenic resources standard and guideline at MA-10b-05 states “All design and implementation practices should be modified as necessary to meet the VQO (Visual Quality Objective) of partial retention” (USDA Forest Service. 1990). Forest roads and trails designated for OHV use may also be within the Santiam Wagon Road SIA. Standard and guidelines for the Santiam Wagon Road SIA at MA-5a-05 states “All design and implementation practices should be modified as necessary to meet the VQO of retention.” Small created openings to construct the staging area on the Big Lake Road and realign designated OHV trails would only be made within MA-10b, but outside of any visual management areas.

This issue was not considered significant for development of alternatives because the proposed action and other action alternatives are designed to be consistent with Management Area standards and guidelines for scenic resources. The proposed action and action alternatives would be designed to remain consistent with Forest Plan standards and guidelines for a Recreation Opportunity Spectrum (ROS) of Roaded Natural in all areas.

### **Mt. Washington Inventoried Roadless Area**

The Mt Washington North and Mt. Washington West Inventoried Roadless Areas (IRA) are within the project area. Unregulated OHV use has affected portions of the project area within the IRAs and user-created tracks. This OHV use within and adjacent to the IRAs may diminish the roadless values that exist within this area.

This issue was not considered significant for the development of alternatives because none of the action alternatives proposed to build roads in either of the areas. The action alternatives would designate and manage OHV trails built over existing user-created tracks or winter trails within Mt. Washington West IRA, which is allowable in the January 12, 2001, Roadless Area Final Rule (36 CFR Part 294, Special Areas, Roadless Area). The action alternatives also include a non-significant amendment to the Willamette Forest Plan that would restrict OHV travel to only designated roads and trails.

## **Relationship to the Forest Plan** \_\_\_\_\_

This environmental assessment tiers to and relies upon the analysis in the 1990 Final Environmental Impact Statement (FEIS) for the Willamette National Forest Land and Resource Management Plan (Willamette Forest Plan or Forest Plan). The Willamette Forest Plan, as amended, provides resource management goals and desired future conditions for managing dispersed recreation. Key to this

initiative is the goal to “provide a range and amount of dispersed recreation opportunities which is consistent with public demand for a variety of activities and settings.”

The proposed action and all action alternatives detailed in Chapter 2 are designed to be consistent with direction in the Willamette Forest Plan, as amended by the following documents:

## **Northwest Forest Plan Amendments**

In April 1994, the “Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Spotted Owl” (USDA, USDI Northwest Forest Plan ROD, 1994) modified the Willamette Forest Plan with overlaying management areas and their accompanying standards and guidelines.

In January 2001, the Forest Plan was further amended by the, “Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines” (USDA, USDI Survey and Manage ROD, 2001). This Record of Decision amended a portion of the Northwest Forest Plan by adopting new standards and guidelines for Survey and Manage and Protection Buffer species, and other mitigating measures.

The March 2004, Record of Decision “To Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines in Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl”, amended a portion of the Northwest Forest Plan by removing the Survey and Manage Mitigation Measure Standards and Guidelines. The decision is based on information and analysis in the Final SEIS to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines.

In March 2004, another Record of Decision titled, “Amending Resource Management Plans for Seven Bureau of Land Management Districts and Land and Resource Management Plans for Nineteen National Forests Within the Range of the Northern Spotted Owl”, amended a portion of the Northwest Forest Plan by clarifying the proper spatial and temporal scale for evaluating progress toward attainment of Aquatic Conservation Strategy (ACS) objectives and by providing clarification that no project level finding of consistency with ACS objectives is required.

The Forest Plan, as amended, contains Forest-Wide Standards and Guidelines as well as Management Area Standards and Guidelines for specific land allocations.

## **Watershed Analysis**

The Aquatic Conservation Strategy in the Northwest Forest Plan included a requirement to prepare comprehensive watershed analyses for all fifth field watersheds. Watershed Analysis documents (WAs) were completed for most watersheds on the Forest in the succeeding two to four years following release of the Northwest Forest Plan in 1994. The Santiam Pass Summer Motorized Recreation Project area is within the Upper McKenzie Watershed. The Upper McKenzie WA was completed in August 1995.

The March 2004, Decision to Clarify Provisions Relating to the Aquatic Conservation Strategy, requires that “a project record for a project with Riparian Reserves must: (1) describe the existing condition, including the important physical and biological components of the fifth field watersheds in

which the project area lies; (2) describe the effect of the project on the existing condition; and (3) demonstrate that in designing and assessing the project the decision maker considered and used, as appropriate, any relevant information from applicable watershed analysis.”

This initiative does not propose disturbances within Riparian Reserves in the project area. Projects descriptions can be found in Chapters 2. Consistency Aquatic Conservation Strategy objectives is addressed in the disclosure of effects on soils and the watershed in Chapter 3.

## Management Areas

Table 1 displays Management Area acres within the McKenzie River Ranger District (MRRD) portion of the project area, as designated in the amended Willamette Forest Plan. The table also includes the overlying land allocations from the 1994 Northwest Forest Plan. Four of the Northwest Forest Plan allocations are present within the project area and consist of Administratively Withdrawn, Late Successional Reserves, Matrix, and Riparian Reserves. However, Riparian Reserves (outside of MA-10f, Lakeside Setting) overlap the other land allocations, and therefore are not represented in the following table.

**Table 1: Management Areas in the Project Area**

<i>Willamette Forest Plan Management Areas</i>	<i>Northwest Forest Plan Land Allocations</i>	<i>Acres</i>
5a – Special Interest Areas	Administratively Withdrawn	823
9b – Wildlife Habitat – Northern Spotted Owl	Administratively Withdrawn	166
10b – Dispersed Recreation – Semiprimitive Motorized	Matrix	10,539
10e – Dispersed Recreation – Semiprimitive Nonmotorized	Administratively Withdrawn	725
10f – Dispersed Recreation – Lakeside Setting	Riparian Reserves	460
11f – Scenic - Retention Foreground	Matrix	171
12b – Developed Recreation – Special Use Permits	Administratively Withdrawn	817
13a – Special Use Permit Areas	Administratively Withdrawn	40
16b – Late Successional Reserve	Late Successional Reserves	109
<b>Total Acres</b>		<b>13,850</b>

Actions are proposed within MA-5a, Special Interest Areas (SIAs), MA-10b, Dispersed Recreation, Semiprimitive Motorized Use, MA-10e, Dispersed Recreation, Semiprimitive Nonmotorized Use, and Management 12b – Developed Recreation – Special Use Permits.

### MA-5a, Special Interest Areas

**Management Area Goals:** The goals for these areas are to 1) Preserve lands in Special Interest Areas (SIAs) that contain exceptional scenic, cultural, biological, geological, or other unusual characteristics, and 2) to foster public use and enjoyment in selected Special Interest Areas through facility development.

The project area contains two SIAs: 1) The Santiam Wagon Road SIA is an important historic feature in the project area that is eligible for inclusion on the National Register of Historic Places. It is currently used as a Key Forest Road travel route for public recreation for all vehicles, including OHVs. 2) The Sand Mountain SIA is also in the project area and is designated because of unique geologic features. Sand Mountain Lookout attracts Recreationists throughout the summer traveling by a variety of motorized vehicles, including OHVs, to enjoy vistas and to visit the restored fire lookout.

**Key Management Area Standards and Guidelines for this Project:**

**MA-5a-01:** An Implementation Guide shall be prepared for each SIA describing the site specific management objectives, enhancement programs, and other acceptable uses and activities.<sup>3</sup>

**MA-5a-02:** Area management practices should result in a physical setting that meets or exceeds the Roded Natural ROS class.

**MA-5a-03:** Trails should be designed to accommodate the type and numbers of users specified in the Implementation Guide.

**MA-5a-11:** New road and trail construction should be permitted to meet site-specific objectives identified in the Implementation Guide. Roads that distract from the special values of the area shall not be developed.

**MA-5a-12:** In sites selected for facilities development the physical, cultural, and biological attributes of the management area shall be maintained.

**Proposed Actions Within this Management Area:**

**Santiam Wagon Road SIA:** The Proposed Action, Alternative 2, would designate all portions of the Santiam Wagon Road within the project area as motorized mixed-use, and dispersed camping would be allowed at designated locations within the regulated camping zone. Alternative 2 also designates 8 OHV route crossings and would rehabilitate the roadway and unincorporated user-created tracks within the Santiam Wagon Road SIA.

Alternative 3 would close a portion of the Santiam Wagon Road to all motorized vehicles from the Eno Road 2676 along road segment 2676-866 and 2690-810 to the junction of 2690-860. The remaining portions of the Santiam Wagon Road along 2690-810 and 2690-811, from the junction of 2690-860 to the Forest boundary at the Cascade crest, is open to motorized mixed-use. Alternative 3 designates 4 OHV trail crossings and allows dispersed camping in the regulated camping zone at several designated locations, and it would rehabilitate the roadway and unincorporated user-created tracks within the Santiam Wagon Road SIA.

Alternative 4 would allow only highway legal vehicles on the Santiam Wagon Road, designates 2 trail crossings and allows dispersed camping at designated locations.

**Sand Mountain SIA:** On September 27, 1997, the Forest Supervisor of the Willamette National Forest signed Special Closure Order #110 which prohibits the possession or use of a vehicle, pack animal, and bicycle off Forest road 2690-810. The order exempts persons with a permit or easement specifically authorizing the prohibited act or omission and any Federal, State, or local officer, or

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<sup>3</sup> Implementation Guides have not been completed for either Special Interest Area. Non-significant Amendment #49 would provide a one-time exclusion of this Standard and Guideline (see page 7.)

member of an organized law enforcement, rescue or fire fighting force in the performance of official duty. This Closure Order will continue to be in effect to protect the geological features of the SIA, specifically the fragile soils of the Sand Mountain cinder cone that are easily displaced by mechanical disturbance, and the fragile plant community associated with this environment.

The Proposed Action, Alternative 2, would not change current access or management of the Sand Mountain SIA.

Alternatives 3 would close the Santiam Wagon Road at the junction of 2690-810 and 2690-860, thus eliminating public vehicle access by the Sand Mountain Lookout road to all but administrative vehicles.

Alternatives 4 would allow access by highway legal vehicles only on Forest road 2690-810, and allow public access to the parking area below the lookout, prohibiting Class I and III ATVs. See Chapter 2 for details of these alternatives.

### **MA-10b, Dispersed Recreation – Semiprimitive Motorized Use**

**Management Area Goals:** The goals of this management area are to 1) Provide a full spectrum of recreation opportunities meeting the criteria for a Semiprimitive Motorized experience through the management of user activities and natural resource settings. 2) Provide users the opportunity to experience a sense of solitude, tranquility, self-reliance and closeness to nature. These experiences are provided through activities involving the application of outdoor skills in an environment that offers some challenges and risk. 3) Provide for wood fiber production, watershed protection, scenic quality, and maintenance of wildlife habitats.

#### **Key Management Area Standards and Guidelines for this Project:**

**MA-10b-01:** An Implementation Guide shall be prepared for each Semiprimitive Motorized area describing the site specific management objectives, enhancement programs, and other acceptable uses and activities.<sup>4</sup>

**MA-10b-02:** This management area shall be available for maximum use for a range of activities that provide Semiprimitive Motorized experiences.

**MA-10b-04:** Access by motorized vehicles shall be limited to snowmobiles, trail bikes, and ORVs not greater than 42 inches in width. The general area is open to off-road vehicles and mountain bikes.

**MA-10b-22:** Structures and improvements shall be provided to facilitate use, protect resource values, and aid administration.

**MA-10b-23:** Road Development should include measures to protect or enhance effectiveness of the area to provide for Semiprimitive Motorized recreation.

#### **Proposed Actions Within this Management Area:**

Almost all of the proposed designated OHV routes are within this Management Area. The proposed action and all action alternatives seek to manage OHV travel within this Management Area by

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<sup>4</sup> An Implementation Guide has not been completed for MA-10b in the project area. Non-significant Amendment #49 would provide a one-time exclusion of this Standard and Guideline (see page 7.)

establishing OHV routes on existing Forest roads and by constructing OHV trails along user-created tracks and in undisturbed areas to connect Forest roads and trails.

For all action alternatives, the staging areas would be constructed on Forest road 2690 at the junction of 2690-860 or north of the Santiam Wagon Road SIA at the junction of 2690 and 2690-810. Staging areas are designed to facilitate off-loading of OHVs, provide for vehicle parking, have information kiosks, and toilet facilities. Dispersed campsites would be allowed within 100 feet of a Forest road, and at identified locations within the Regulated Camping Zone along the Big Lake Road and Santiam Wagon Road. An Open Play Area, and the Kiddie Loop youth learning trails would be located within MA-10d. A majority of the road closures and rehabilitation of user-created tracks that are not incorporated into the designated road and trail system, are also within this Management Area.

### **MA-10e, Dispersed Recreation – Semiprimitive Nonmotorized Use**

**Management Area Goals:** The goals of this management area are to 1) provide a full spectrum of recreation opportunities meeting the criteria for a Semiprimitive Nonmotorized experience through the management of user activities and natural resource settings. 2) Provide users the opportunity to experience a sense of solitude, tranquility, self-reliance and closeness to nature. These experiences are provided through activities involving the application of outdoor skills in an environment that offers some challenges and risk.

#### **Key Management Area Standards and Guidelines for this Project:**

**MA-10e-01:** An Implementation Guide shall be prepared for each Semiprimitive Nonmotorized recreation area describing the site-specific management objectives, enhancement programs, and other acceptable uses and activities.<sup>5</sup>

**MA-10e-02:** This management area shall be available for maximum use for a range of activities that provide Semiprimitive Nonmotorized ROS class experiences.

**MA-10e-04:** The general area shall be closed to off-road vehicles.

**MA-10e-13:** Existing roads shall be closed to motorized use and access.

**MA-10e-04:** No new roads shall be developed. New trails shall be developed commensurate with management objectives established in individual Implementation Guides.

#### **Proposed Actions Within this Management Area:**

All action alternatives would include a non-significant amendment to the Willamette Forest Plan that would re-designate land from MA-10e, Dispersed Recreation, Semiprimitive Non-Motorized, to MA-10b - Dispersed Recreation, Semiprimitive Motorized. The non-significant amendment proposed for Alternative 2 would designate both Forest road 2690-910 and winter trail #3558 in this reallocation.

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<sup>5</sup> An Implementation Guide has not been prepared for this Management Area within the project area (see page 7). Off-road OHV use would continue to be prohibited with Non-significant Amendment #49 with any action alternative. Neither the proposed action nor any other action alternatives include activities for this management area.

**MA-12b, Developed Recreation – Special Use Permits**

**Management Area Goals:** The primary goals of this management area are to 1) Provide a safe, healthful, aesthetic, non-urban atmosphere for the pursuit of natural resource based recreation consistent with resource protection needs and anticipated user demand. 2) Where opportunities for meaningful facilities and services according to the terms of individual special use agreements with private individuals and organizations.

The project area contains the Hoodoo Ski Area, managed under a special use agreement between the Forest Service and Hoodoo Ski Bowl Incorporated. The Hoodoo Ski Area operates under the Hoodoo Master Plan (USDA Forest Service, 1996), which was implemented following the Hoodoo Master Plan Final Environmental Impact Statement and Record of Decision, (USDA Forest Service, 1996a).

**Key Management Area Standards and Guidelines for this Project:**

**MA-12b-06:** The physical setting for this management area shall meet the criteria for several ROS classes ranging from Roaded Natural to Semiprimitive Nonmotorized depending on the location and the degree of development.

**MA-12b-07:** The general area shall be closed to off-road vehicle use.

**MA-12b-17:** New trails and roads may be developed and shall be commensurate with management objectives established in the site plan.

**Proposed Actions Within this Management Area:**

Alternatives 2, 3, and 4 would designate roads and construct motorized trails within the Hoodoo Ski Area special use permit area for ATV Class I and III.

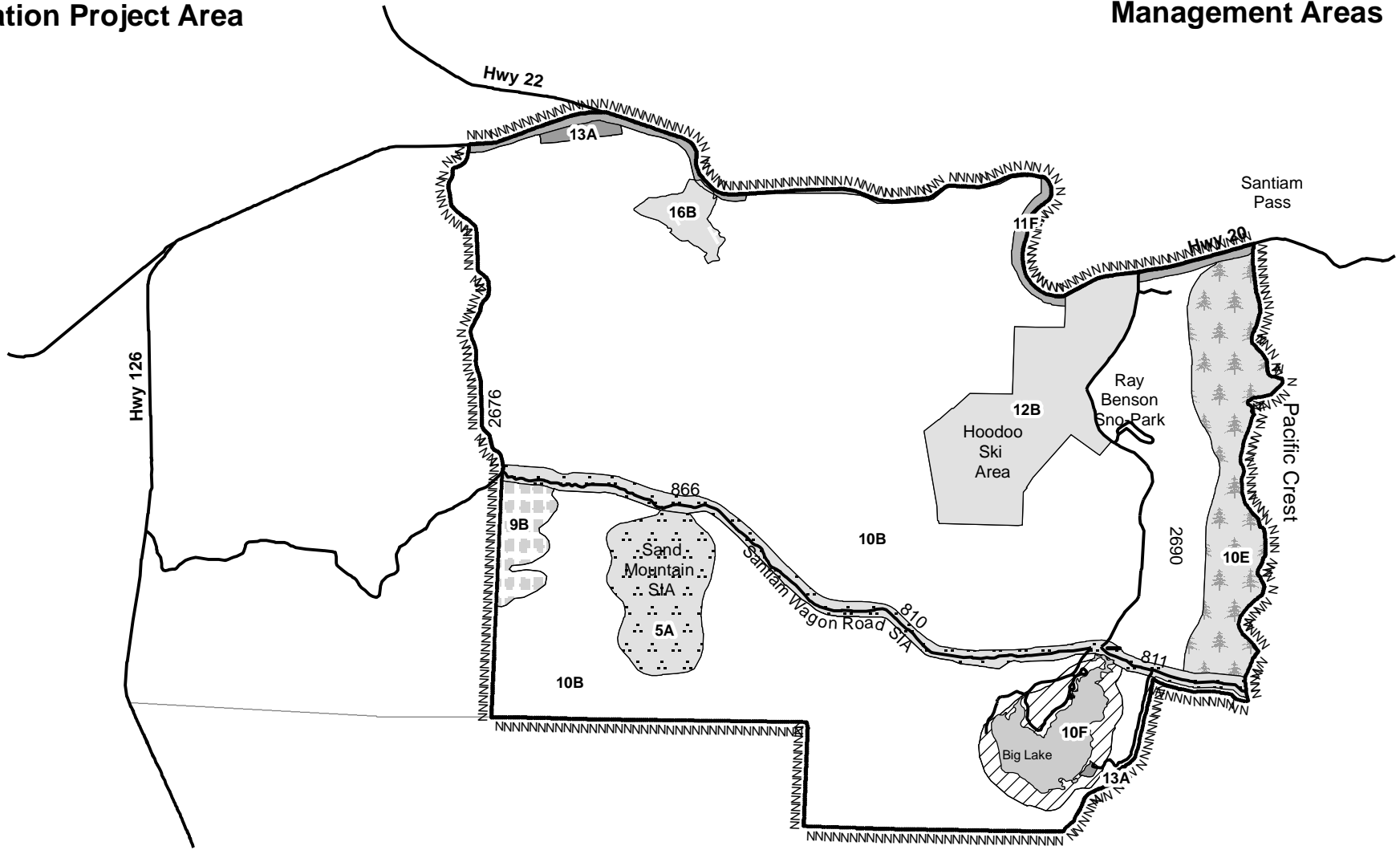
**Other Ownership**

The project area only includes National Forest System (NFS) lands.

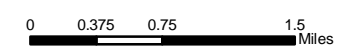


# Santiam Pass Summer Motorized Recreation Project Area

# Willamette Forest Plan Management Areas



- |  |  |  |   |
|--|--|--|---|
|  | Project Boundary   |  | 16B - Late Successional Reserve - 100 acre      |
|  | 10B - Dispersed Recreation - Semiprimitive Motorized     |  | 9B - Wildlife Habitat - Pileated Woodpecker     |
|  | 10E - Dispersed Recreation - Semiprimitive Non-motorized |  | 12B - Developed Recreation - Special Use Permit |
|  | 10F - Dispersed Recreation - Lakeside Setting            |  | 11F - Scenic - Retention Foreground             |
|  | 5A - Special Interest Area                               |  | 13A - Existing Long Term Special Use            |
|  |  |  | Major Road                                      |



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## Chapter 2. Alternatives, Including the Proposed Action

This chapter describes and compares the alternatives considered for the Santiam Pass Summer Motorized Recreation Project. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Information used to compare the alternatives is based upon the design of the alternative (i.e., miles of designated roads and trails for OHV use and other added features) and on the environmental and social effects of implementing each alternative.

### Alternatives Considered but Not Fully Developed \_\_\_\_\_

An alternative was submitted to the District Ranger by the Sand Mountain Society (SMS) in the summer of 2007. The “SMS Alternative” was considered by the District Ranger and IDT, but it was not fully developed as an alternative, as many of its elements were already included in existing alternatives (3 and 4). Sand Mountain Society proposed their alternative to the team to isolate recreational OHV use away from areas which they feel would be “incompatible” with such use, and designed it to generally keep OHV use to an area along Forest road 2690, north of and outside the Santiam Wagon Road SIA, and mostly north of 2690-860 and to a western limit at 2690-826.

The SMS Alternative would close many dead end roads and user trails, particularly those that lead to volcanic ash deposits in the eastern half of the planning area. The intent in their alternative was to protect the ash deposits and cinder cones outside of the Sand Mountain SIA, which are of particular interest to SMS. The SMS Alternative would include one staging area at Ray Benson. Additional measures were recommended in the SMS Alternative that would take steps to modify public behavior (i.e. alcohol ban) and which would prohibit “paddle tires,” a type of ATV tire.

The SMS submitted their alternative as a way to provide a non-motorized buffer around important heritage, geological, and cultural resources (Santiam Wagon Road, the Sand Mountain SIA, Pacific Crest National Scenic Trial, and Mt Washington Wilderness). In their words, Sand Mountain Society proposed the SMS Alternative to “restore balance of recreational visitors to Santiam Pass, many of whom (i.e. hikers, equestrians, etc.) have been largely displaced by OHV use, and whose recreational activities are more compatible with much of the terrain and heritage resources.”

This EA considers a full range of alternatives containing many of the actions proposed by the Sand Mountain Society and others in their scoping comments, and which Sand Mountain Society included in their Alternative. For instance, all action alternatives are designed to protect important heritage, geological, and cultural resources detailed in the SMS Alternative, such as the Santiam Wagon Road, the Sand Mountain SIA, the Pacific Crest National Scenic Trial, and Mt Washington Wilderness, consistent with the amended Forest Plan. However, not all aspects of the SMS Alternative

are incorporated. For instance, all alternatives considers the entire project area as potentially available for motorized recreation use when such use is compatible with established land and resource objectives and when use is consistent with resource capability and suitability, as stated in the Purpose and Need (Willamette Forest Plan).

All action alternatives include Forest Plan Amendment #49, which would restrict OHV use to designated roads and trails. Alternatives 3 and 4 do not include any areas of ash deposits for designated trails or play areas, which addresses the SMS concern to protect this area. Alternatives 2, 3, and 4 are designed to protect and restore the Santiam Wagon Road, with Alternative 4 restricting use on the Santiam Wagon Road to highway legal vehicles as the SMS Alternative proposes. All action alternatives take measures to block existing OHV access to the Pacific Crest National Scenic Trail, which protects it from intrusion by motorized vehicles to help avoid conflicts between users. None of the alternatives would change or cancel Special Closure Order #110 that restricts off road or trail travel within the Sand Mountain SIA. Alternative would close Forest road 2690-810 at the 2690-860 junction, thereby eliminating motorized vehicle access to Sand Mountain Lookout to all but administrative vehicles. Alternative 4 would limit travel up to the parking area below Sand Mountain lookout to Highway Legal Vehicles, as the SMS Alternative proposes. By eliminating OHV use south of the Santiam Wagon Road SIA, Alternative 4 does what the SMS Alternative proposes, by providing a non-motorized buffer near the Sand Mountain SIA and north of the Mt Washington Wilderness.

## **Alternatives Considered in Detail** \_\_\_\_\_

### **Alternative 1 – The Current Management Situation (No Action)**

This alternative assesses the present condition of the affected environment and serves as the basis of comparison for the other alternatives analyzed in this EA. Recreation use within the Santiam Pass Summer Motorized Recreation Project Area would continue to be managed as it currently is under the existing management situation.

Current trends of OHV use would continue, and the McKenzie River Ranger District would continue to monitor uses allowed under existing Forest Plan Standards and Guidelines. Current use of ATVs on all roads and trails would continue and the area would remain open to cross-country travel. Enforcement of present regulations applying to recreational ATVs within the project area would continue unchanged. Areas where ATV use is not permitted, such as the Pacific Crest Trail, Patjens Lake Trail, Hoodoo Ski Area, and off of Forest road 2690-810 within the Sand Mountain SIA would remain off-limits to off road OHV use.

This alternative does not close and or rehabilitate user-created tracks. The unregulated dispersed camping that is occurring would continue and expansion into undisturbed areas would continue. No facilities would be designated for loading and unloading of ATVs.

Since Alternative 1 would not take actions to change how OHV use is managed within the project area and it does not meet the purpose and need identified in Chapter 1. That is, it does not designate a system of Forest roads and trails for motorized recreation vehicle use within the project area consistent with the Willamette Forest Plan. It does not provide for maximum use for a range of activities that

provide semiprimitive motorized experience, and based on an analysis of resource conditions, it does not take action to protect resources in this area. It does not meet the need to rehabilitate existing motorized recreation vehicle impacts along the Santiam Wagon Road within the project area, and it does not protect this heritage resource from future impacts. Lastly, it does not meet the need to change conditions in the project area to provide recreation opportunities for a quality family-oriented experience.

### **Alternatives 1 as it Responds to the Significant Issues:**

#### **Issue 1. Santiam Wagon Road SIA**

Alternative 1 would take no action to change the current condition of the Santiam Wagon Road SIA because OHVs use on both the Eno and Sand Mountain Segments (HPMP) of the historic wagon road would continue. With no action, existing motorized recreation impacts to the Santiam Wagon Road would remain. No actions would be taken to return the wagon road to its historic route, profile, and width. The 8 user-created OHV trail crossing that exist would remain in use and the number of crossings could increase. Dispersed camping within the Santiam Wagon Road SIA would continue to be unregulated, with the 43 existing dispersed campsites remaining in use for an estimated 39.5 acres. No speed limits would be implemented along the historic wagon road to reduce the potential for road surface material displacement.

#### **Issue 2. OHV Spectrum of Opportunity**

There would be no actions taken to provide comprehensive management of OHV use in the project area. Alternative 1 would provide the most opportunity for OHV freedom. ATVs would continue to be allowed on all system roads, and cross-country travel would continue. User-created routes would not be closed to OHV use or rehabilitated. Dispersed camping opportunities would continue to be managed as they currently are. A continued expansion of user-created routes and dispersed camping sites is likely to promote larger groups and more people overall. Designated camping areas, sanitary facilities, and day-use parking areas suitable for loading and unloading ATVs would not be provided beyond what is currently available.

#### **Issue 3. Recreation User Conflicts**

Alternative 1 allows more freedom of choice for dispersed campers as it does not designate or restrict the size of campsites. Camping opportunities would remain unchanged and would likely expand in size, encouraging large groups at times. Motorized trespass along the Pacific Crest National Scenic Trail is likely to continue unchecked because of numerous user-created access points in the project area and no restrictions on cross-country travel. Without a designated motorized travel system, all areas within the planning area would be available for mixed recreation use with dispersed campsites likely to be used by primarily OHV users in the summer months. Non-motorized recreation activities would continue to be impacted by unrestricted OHV use and would continue the potential for user conflict.



**Figure 4. Map of Alternative 1.**





## Actions Common to All Action Alternatives

All action alternatives include Non-Significant Amendment #49 with these specific components:

### 1. A One-time Exemption of Management Area Standard and Guideline MA-5a-01 and MA-10b-01. (See page 7 for more details.)

**MA-5a-01:** An Implementation Guide shall be prepared for each SIA describing the site specific management objectives, enhancement programs, and other acceptable uses and activities.

**MA-10b-01:** An Implementation Guide shall be prepared for each Semiprimitive Motorized area describing the site specific management objectives, enhancement programs, and other acceptable uses and activities.

### 2. The Addition of Management Area Standard and Guideline MA-10b-04a.

In all action alternatives, Management Area Standard and Guideline **MA-10b-04a** would be added to the Willamette Forest Plan (USDA Forest Service. 1990, page IV-185). This amendment would restrict OHV use in the project area to only designated roads, trails, and other specified areas, meeting the need to protect resources from unregulated OHV use. This action would change the “Open” designation, as mapped in the 1990 Willamette Forest Plan Map, to “Closed” for all of Management Area 10b within the Santiam Pass Summer Motorized Recreation Project Area. An exception to this change would be made for the designated Open Play Area north of Sand Mountain SIA in Alternative 2 (see Figure 6 – Map of Alternative 2).

Existing Standard and Guideline MA-10b-04:

**MA-10b-04, Access by motorized vehicles shall be limited to snowmobiles, trail bikes and ORVs not greater than 45 inches in width.** The general area is open to off-road vehicle use off designated roads and trails.

The proposed added Standard and Guideline applicable to the project area:

**MA-10b-04a, Within the Santiam Pass Summer Motorized Recreation Area, access by wheeled motorized vehicles on designated Forest Service trails shall be limited to trail bikes and ORVs not greater than 50 inches in width or over 800 pounds vehicle weight.** The general area is **not** open to off-road vehicle use off designated roads, trails or other specified areas.

### 3. A Management Area Change from MA-10e, to MA-10b Along Forest Winter Trail #3558.

For Alternative 2, Forest Plan Amendment #49 also changes the Management Area designation of two corridors of National Forest System land from MA-10e, Dispersed Recreation, Semiprimitive Nonmotorized, to MA-10b, Dispersed Recreation, Semiprimitive Motorized (Willamette Forest Plan, page IV-184 to IV-195):

**a) A 12 foot wide corridor would be re-designated as MA-10b on the location of winter snowmobile trail #3558, from the east termini of Forest road 2690-920 near the Pacific Crest Trail to the Willamette National Forest boundary at the Cascade Crest. This change in Management Area allocation would be implemented with the construction of a designated OHV trail for Class I and III ATVs on existing user-created tracks.**

As previously mentioned, Sisters Ranger District of the Deschutes National Forest is currently involved in road management planning, which may result in designated roads and trails for OHV use on the Deschutes, east of the Santiam Pass Summer Motorized Recreation Project area. A travel corridor in this location could provide a connecting route to the east side of the Cascade crest for access to existing roads and trails.

### **ATV Trail System Designation**

The ATV trail system has been designed to accommodate ATV Class I and III vehicles and to provide a quality family recreation experience for a variety of ATV trail users. Design guidelines used during trail layout and through project implementation will be consistent with guidelines from Forest Service Trails Handbook, FSH 2309.18. Trail design would also consult the Wernex Motorcycle Trail Guidelines for Design, Construction, and Maintenance and User Satisfaction (Wernex 1994). The system would be designed primarily to “easy” ATV trail standards, with an average clearance of 74 inches wide, 6 foot height and maximum 20 percent grade. The system would not be open to motorized vehicles larger than 50 inches in width and over 800 lbs. vehicle weight.

Proposed trail locations have been identified with the intent of providing a variety of trail recreation opportunities in terms of terrain, difficulty and scenery. Multiple loops and a variety of trail lengths were also incorporated into the proposal to disperse users and minimize the number of contacts, and to allow users to choose conditions best related to the experiences they were seeking.

Trail construction would occur either on previously undisturbed ground, or by incorporating user-created tracks. No new trails would be constructed within Riparian Reserves. User-created tracks have been reviewed for their recreation value and are located to minimize impacts to special habitats for plants, or home range for any TES species. Routes with high recreation value and have little or no potential to affect the other resources were considered for inclusion in the action alternatives. User created tracks not incorporated into the system would be closed and rehabilitated. They would be closed to all recreational uses during the period of rehabilitation.

User-created tracks proposed for inclusion in the motorized trail system that do not meet motorized trail standards would be reconstructed or narrowed to improve the recreation experience. Narrowing would be accomplished by adding natural structures such as stumps, logs, or rocks, or allowing natural vegetation along the corridors to reestablish and encroach from the sides.

Trail speeds would be regulated by design. Curves would be used to minimize long, straight stretches of trail. In areas where curves for speed control would not be feasible, constructed features

on the trail surface would help to reduce speeds. Trails would be constructed with areas wide enough for safe passing of other vehicles, or would include pull-out areas. Potential blind spots along the trail system would be minimized through trail design and maintenance, minimizing any surprise to users sharing the trail.

A sign plan and maintenance strategy would be developed for both the designated dispersed camping areas and the motorized trail system in accordance with the December 2005 Forest Service Engineering Manual EM7100-15 Sign and Poster Guidelines for the Forest Service (USDA Forest Service, 2005b). Trail signing would be provided on all system trails and include directional, interpretive, and difficulty rating. Any roads designated for mixed-use would also be signed in accordance with these guidelines.

All roads proposed to be designated for mixed-use would be consistent with EM-7700-30 “Guidelines for Engineering Analysis of Motorized Mixed Use on National Forest System Roads,” (USDA Forest Service, 2005c).

### **Santiam Wagon Road**

The Sand Mountain Segment of the Santiam Wagon Road (Forest road 2690-810, from the junction with 2690-860 east to the Big Lake Road) is designated for OHV use in all action alternatives, but vehicle use designation would vary by each action alternative described below. All action alternatives would restore displaced road surface material along the 6.0 miles within the project area on both the Eno and Sand Mountain Segments and attempt to return the road profile to original width and alignment. Designated OHV crossings would be clearly marked and designed to preserve the integrity of the wagon road. All action alternatives would include speed limits on portions of the Santiam Wagon Road open to motorized vehicles. All action alternatives would also install signs with a wagon road logo to inform users that they are on the historic wagon road, and the informational kiosks in the staging areas would include graphic displays pertaining to the historic wagon road.

### **Staging Area Development**

All action alternatives would construct a day-use staging and parking area, approximately 1-2 acre in size on the west side of the Big Lake Road 2690, and south of the intersection of Forest road 2690-860. This day-use area is centrally located within the designated OHV system of trails for all action alternatives. It would include an information kiosk and a concrete pad for the portable toilets installed during the summer. Vegetation would be planted along the interface of the staging areas and road access to reduce the noise and screen the area from general traffic along Big Lake Road. Design criteria would include bumpers and planted vegetation to confine use and limit impacts to within the designated area. Speed limit would be posted adjacent to the staging area.

### **Dispersed Camping in the Regulated Camping Zone**

All action alternatives would include a Regulated Camping Zone surrounding Ray Benson Sno Park, extending south to the end of Big Lake Road 2690, along the Santiam Wagon Road with various coverage by alternative, and encompassing the Big Lake Campground Complex. The regulated camping zone would restrict dispersed camping to designated sites. The estimated number of designated dispersed campsites would vary by alternative. No dispersed campsites would be located

in any riparian reserves adjacent to Big Lake. No designated dispersed campsites would be located within 100 feet of the Pacific Crest Trail.

All existing dispersed campsites in the regulated camping zone that are selected for inclusion in any of the action alternatives would be posted as an established site. Hard boundary markers and physical barriers would identify and define the specific camp area. A mix of group and single occupancy campsites would be distributed along the road corridors. No constructed improvements such as tables, garbage cans, or toilet facilities would be provided. Some designated dispersed campsites may have constructed fire rings installed to reduce potential fire hazards. Designated dispersed campsites would be surveyed annually for safety and sanitation standards. During the selection of campsites, any trees identified under current hazard tree criteria would be felled.

### **Other Dispersed Camping**

All motor vehicles must remain within 100 feet of an open Forest system road, for other dispersed camping throughout the project area but outside the Regulated Camping Zone.

### **Implementation**

The ATV Grants Program, administered by Oregon State Department of Parks and Recreation, provides funding for development and maintenance of road and trail systems, and for patrol, enforcement and monitoring of recreational ATV use areas throughout the State of Oregon. Over the last decade, ATV grants have been applied to assist in the development of ATV recreation areas on Federal lands in Oregon. As an example, the Willamette National Forest used State ATV grants in part, for the development of the Huckleberry Flat OHV Area near Oakridge, Oregon. ATV grants also helped develop the Shotgun Creek OHV Area, located on Bureau of Land Management lands near Marcola, Oregon. The McKenzie River Ranger District has applied for ATV Grant funding to help to implement actions that move forward in this initiative.

Work eligible for funding on this project includes the rehabilitation of the road surface, width, and alignment of the Santiam Wagon Road, the construction of the designated ATV road and trail system, the construction of the “Kiddie Loop” youth learning trail, construction and restoration work at the dispersed campsites within the regulated camping zone, and the rehabilitation of user-created tracks.

Any work funded through ATV grants may take 3-5 years to complete due to annual distribution of funds for competing projects. In order to provide continuing opportunities to the public for OHV recreation, project implementation would be timed such that some of the dispersed camping areas and Forest roads and trails available to OHV use would remain open while others are undergoing reconstruction and rehabilitation.

### **Enforcement of Forest Orders and State Laws**

An area education and enforcement plan would be implemented to actively promote responsible, appropriate and legal behaviors within the project area through information boards located at primary staging areas and popular dispersed camp areas. Information kiosks at the staging areas would include safety information, a list of appropriate behaviors and trail courtesy guidelines, ethics for users of the area, and Federal and State rules and regulations. Existing educational programs, such as Leave No

Trace and Tread Lightly would be utilized. Interpretive signs would describe the historical importance of the Santiam Wagon Road and how to identify and protect it while using the area.

The sign boards would also advise the user on minimizing harassment to the wildlife in the area and how to avoid damaging wildlife habitat. Users would be informed about fire precautions to prevent wildfires. Guidelines would be listed on preventing the spread of noxious weeds. Road system maps, Forest Orders, and other rules and regulations would be made available at staging areas, the McKenzie River District office, and other commercial venues.

Enforcement of the State Vehicle Code would be provided by Federal Law Enforcement officers, Linn County officers, and the Oregon State Police. The same agents would also enforce Forest Orders created as a result of this initiative which pertain to Forest road and trail restrictions. Notices of violations and applicable fines would be issued. Motorized recreation vehicles would be required to meet all applicable National and State OHV Regulations. Noise testing would be periodically offered at staging areas during heavy use weekends. The ATV noise limit of 99 decibels under Oregon State Law would be enforced.

## **Actions Specific to Alternative 2 – The Proposed Action**

Alternative 2 – the Proposed Action, meets the project’s purpose and need of providing a designated system of roads and trails for motorized recreation within the project area as directed by the Willamette Forest Plan and by agency policy, of rehabilitating existing motorized recreation vehicle-impacts to the Santiam Wagon Road and protecting this heritage resource from future impacts, and for providing recreation opportunities in the project area that offer a quality family-oriented experience.

Alternative 2 would include the actions described above beginning on page 33 that are common to all action alternatives, and it would implement the specific actions described below, which are displayed in Figures 5 and 6.

### **Non Significant Forest Plan Amendment #49**

Alternative 2 includes Forest Plan Amendment # 49, which implements the following (see page 7 for more details):

1. A one-time exemption of Management Area Standard and Guideline **MA-5a-01** and **MA-10b-01**
2. Adding Management Area Standard and Guideline **MA-10b-04a**, and
3. The Management Area designation change from **MA-10e**, to **MA-10b** along Forest Trail #3558.

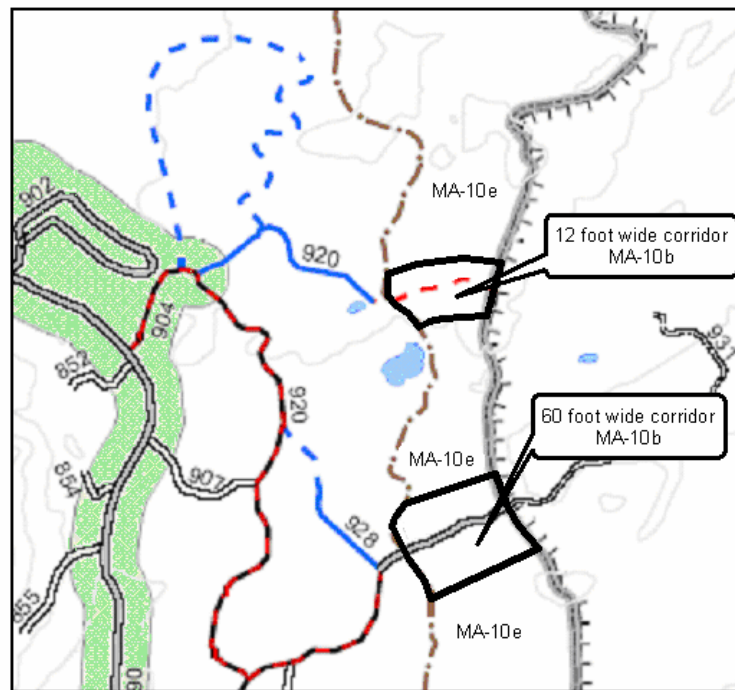
Alternative 2 adds a second change in Management Area designation from MA-10e, Dispersed Recreation, Semiprimitive Nonmotorized, to MA-10b, Dispersed Recreation, Semiprimitive Motorized at the following location (Willamette Forest Plan, page IV-184 to IV-195):

**b) A 60 foot wide corridor would be designated to MA-10b along Forest road 2690-910 from the intersection of Forest road 2690-928 to the Forest boundary at the Cascade Crest, and it is designated for highway legal vehicles only.**

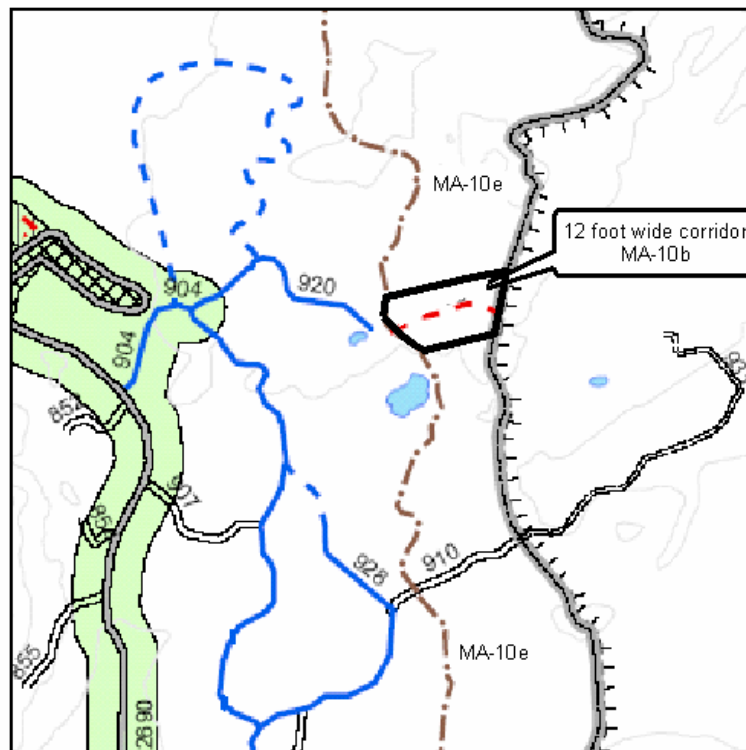
Figure 5 displays the Management Area changes for Alternative 2, and the changes specific to Alternatives 3 and 4.

Figure 5: Forest Plan Amendment #49, by Alternatives.

Alternative 2:



Alternatives 3 and 4:



(Figures not drawn to scale.)

**Alternative 2 would also implement these following actions:****ATV Trail System Designation**

- Designate 37.3 miles of Forest Road open to Motorized Mixed-Use.
- Designate 7.6 miles of Forest Road open to ATV Class I & III only.
- Close 16.3 miles of Forest Road to motorized use.
- Reconstruct 4.4 miles of user created tracks, which would be open to ATV Class I & III.
- Construct 7.9 miles of new motorized trails open to ATV Class I & III
- Close 5.6 miles of user-created tracks to all motorized use and rehabilitate.

**Santiam Wagon Road**

- Designate 6.0 miles of the Santiam Wagon Road open to Motorized Mixed Use.
- Rehabilitate all 6.0 miles of the Santiam Wagon Road to approximate historic route, profile, and width, close and rehabilitate user-created OHV crossings.
- Designate 8 clearly marked OHV crossings to protect the wagon road.
- Establish and post speed limits on the Santiam Wagon Road that apply to both HPMP road segments within the project area, and includes Forest road 2676-866 from the Eno road 2676 to the junction with 2690-810, Forest road 2690-810 from the junction of 2676-866 to the junction the Big Lake Road 2690, and Forest road 2690-811 from the junction of 2690 to the Forest boundary.

**Staging Area Development**

- Established two day-use staging areas for off-loading OHVs from trailers at two central locations, one located along the Big Lake Road at the junction of Forest Road 2690 and south side of 2690-860, and the other near the junction of Forest Road 2690 and 2690-810, (Santiam Wagon Road) but outside the Santiam Wagon Road SIA. The staging areas would include a Kiosk to provide user education and information along with trail maps and a pad for toilet facilities. The constructed staging areas would be offset from the Big Lake Road to provide vegetative screening for noise reduction. Vehicle speed would be regulated adjacent to all staging areas.

**Dispersed Camping in the Regulated Camping Zone**

- Designate 34 dispersed campsites within the Regulated Camping Zone along Big Lake Road 2690, and Santiam Wagon Road along the 2690-810 and 811 segments. All designated campsites would access the motorized trail system.
- Block and rehabilitate 9 existing dispersed campsites along the Santiam Wagon Road that are not incorporated into this action (21.9 acres restored).

**Open Play Area**

- Establish an Open Play Area that permits cross-country travel off designated Forest roads and trails, on approximately 22 acres within the sand blowout feature that exists at the junction of the Sand Mountain lookout road 2690-810 and Santiam Wagon Road 2676-866. Play area boundary



markers would be established outside of the Sand Mountain Special Interest Area and the Santiam Wagon Road Special Interest Area. Entrance and exit trail access points would be designated to connect the play area to the rest of the trail system.

### **Kiddie Loop**

- Establish a Kiddie Loop youth learning trail area on approximately 18 acres north of Big Lake Campground, between the Big Lake Road 2690 and Santiam Wagon Road, 2690-810. Construction of the youth learning trail, or Kiddie loop area, would provide a managed opportunity for beginning riders. A series of short loops and connective trails between existing dispersed camping areas and Big Lake Campground Complex would allow youth to develop ATV handling skills in a controlled open location. On-site adult supervision would be encouraged for those using the Kiddie Loop trail area through signing. The youth learning area would be designed for younger age riders to operate Class I and III ATVs at reduced speed. Tree and noise reducing vegetation would be established between the trail area and Big Lake Campground.

### **Key Forest Roads**

Alternative 2 does not change current Forest road access on any Key Forest Roads as described in Appendix A, Transportation Systems Analysis.

## **Alternatives 2 as it Responds to the Significant Issues:**

### **Issue 1. Santiam Wagon Road SIA**

Alternative 2 does not limit OHV use of the Santiam Wagon Road. All 6.0 miles of the wagon road remains open to motorized mixed-use that includes ATV Classes I, II, III. Of all action alternatives, this is the least prohibitive for motorized vehicle use. This alternative rehabilitates all 6.0 miles of the Santiam Wagon Road within the project area to the historic route, profile, and width. It would provide for 8 OHV crossings and rehabilitate all user-created OHV crossings not incorporated into this action. Dispersed camping along the Santiam Wagon Road would be regulated and camping would be limited to 18 designated sites along the 2690-810 and 811 portions in the SIA. Approximately 17.3 acres of existing dispersed camping sites in the SIA would be made unavailable and rehabilitated. Speed limits would be posted and enforced on Forest road segments 2690-866, 2690-810, and 2690-811, which defines the historic Santiam Wagon Road within the project area.

### **Issue 2. OHV Spectrum of Opportunity**

Alternative 2 would provide the widest spectrum of opportunity for OHV users. It has the most miles of managed motorized trail system of all alternatives by establishing approximately 57.2 miles of OHV routes. Routes are comprised of a combination of existing Forest roads, construction of trails that incorporate user-created tracks, and construction of new ATV Class I and III trails between Forest roads. Of the existing 68.2 miles of forest roads in the project area, approximately 37.3 miles would be open to Motorized Mixed-Use, 7.6 miles would be open to ATV Class I and III only and 16.3 miles

would be closed to all motorized use. Trail construction includes approximately 7.9 miles of new trail and 4.4 miles of user-created tracks, which would be open to ATV Class I and III.

One new day-use staging area would be located at the junction of Forest Road 2690 and 2690-860, and a second day use staging area would be constructed north of the Santiam Wagon Road SIA near the junction of the Big Lake Road. Both staging areas would provide a central point of contact for user education, trail information along with sanitation facilities as needed. Construction of the Kiddie Loop youth learning trail area between Forest Road 2690-891 and the Big Lake Road 2690 would provide a managed opportunity for beginning riders. A series of short loops and connective trails between existing dispersed camping areas and Big Lake Camp Ground would allow youth to develop ATV handling skills in a controlled open location. A 22 acre open play area would be established north of the Sand Mountain SIA where cross-country riding would be allowable.

### **Issue 3. Recreation User Conflicts**

Alternative 2 would designate approximately 34 dispersed campsites within the regulated camping zone, with all 34 campsites having direct access to the ATV trail system, and would heavily favor those dispersed campers with ATVs. A combination of campsite configuration and site distribution would accommodate multi-family gatherings in addition to single family usage. Current campsites would be modified to establish campsite boundaries along with access to trail systems.

This Alternative would reduce the total number of motorized crossing along the Pacific Crest Trail from 9 to 4 to reduce potential for conflict. One crossing would be located along the Santiam Wagon Road, 2690-811, one along Forest road 2690-940 and one at the junction of 2690-920 and trail 3558. Informational signing and barrier placement would also help prevent unintentional motorized access along the Pacific Crest Trail corridor.

This alternative maximizes the available Forest road system for motorized recreation. Non-motorized user to the area would have few opportunities for recreational activities outside of the existing non-motorized trail system. Those users wanting to travel cross-country within the project area would continue to encounter motorized activity at trail or road crossings.

Noise and dust associated with ATV use around Big Lake Campground has been a source of user conflict. This alternative provides for two trail access points at Big Lake Campground and removes the parallel user created trail along the Big Lake Road north of the campground. The open area across from the entrance to Big Lake Campground would be rehabilitated to become a low speed trail access point. Establishment of the Kiddie Loop youth learner trail area would also reduce the noise and dust currently associated with high speed activities occurring in that area north of the campground and reduce potential for conflicts between non-motorized and motorized users.

An area education and enforcement plan would be developed and implemented with the purpose of actively promoting responsible, appropriate, and legal behaviors within the project area. Information boards would be located at primary staging areas and popular dispersed camp areas.

**Figure 6. Map of Alternative 2.**



## Actions Specific to Alternative 3

Alternative 3 would implement the following actions, which satisfies the project purpose and need to provide a designated system of roads and trails for motorized recreation within the project area as directed by the Willamette Forest Plan and agency policy, to rehabilitate existing motorized recreation vehicle-impacts to the Santiam Wagon Road and to protect this heritage resource from future impacts, and to provide recreation opportunities in the project area that offer a positive, family-oriented experience.

Alternative 3 would include the actions described above beginning on page 33 that are common to all action alternatives, and it would implement the specific actions described below, which are displayed in Figures 6 and 8.

### Non Significant Forest Plan Amendment #49

Alternative 3 includes Forest Plan Amendment # 49, which implements the following:

1. A one-time exemption of Management Area Standard and Guideline **MA-5a-01** and **MA-10b-01**
2. Adding Management Area Standard and Guideline **MA-10b-04a**, and
3. The Management Area designation change from **MA-10e**, to **MA-10b** along Forest Trail #3558.

For a complete description of this non-significant amendment see page 33.

### Alternative 3 would also implement these following actions:

#### ATV Trail System Designation

- Designate 30.6 miles of Forest Road open to Motorized Mixed-Use.
- Designate 12.1 miles of Forest Road open to ATV Class I & III only.
- Close 18.5 miles of Forest Road to motorized use.
- Reconstruct 5.2 miles of user created tracks, which would be open to ATV Class I & III.
- Construct 9.8 miles of new motorized trails open to ATV Class I & III
- Close 4.8 miles of user-created tracks to all motorized use and rehabilitate.

#### Santiam Wagon Road

- Designate 3.8 miles of the Santiam Wagon Road open to Motorized Mixed Use; starting at the junction of Forest Road 2690-810 and 2690-860 and east to the Forest boundary.
- Close 2.2 miles of the Santiam Wagon Road to motorized mixed-use, which includes ATV Class I, II, and III, from the junction of the Eno Road 2676 and 2676-866, to the junction of Forest Road 2690-810 and 2690-860.
- Rehabilitate 6.0 miles of the Santiam Wagon Road to approximate historic route, profile, and width, close and rehabilitate user-created OHV crossings not incorporated in the trail system.
- Designate 5 clearly marked OHV crossings.

- Establish and post speed limits on the Santiam Wagon Road that apply to road segments within the project area, and include Forest road 2690-810 from the junction of 2676-866 to the junction the Big Lake Road 2690, and Forest road 2690-811 from the junction of 2690 to the Forest boundary.

### **Staging Area Development**

- Establish two day-use staging and parking areas for off-loading OHVs from trailers at convenient locations: one located along the Big Lake Road at the junction of Forest road 2690 and south side of 2690-860, and the other at a section of Ray Benson Sno Park for day-use staging and parking. The staging areas would include user education and information kiosks, and a concrete pad used in the summer for portable toilets.

### **Dispersed Camping in the Regulated Camping Zone**

- Designate 20 dispersed campsites within the Regulated Camping Zone, along Big Lake Road 2690 and Santiam Wagon Road the 2690-810 and 811. All designated campsites would access the motorized trail system.
- Block and rehabilitate 13 existing dispersed campsites that are not incorporated into this action (29.2 acres restored).

### **Open Play Area**

Alternative 4 does **not** include an Open Play Area.

### **Kiddie Loop**

- Establish two Kiddie Loop Trail Areas. One area would be south of the Santiam Wagon Road as in Alternative 2, with an additional 4-acre Kiddie Loop in the northwest portion of Ray Benson Sno Park.

### **Changes to Key Forest Roads**

As described in Appendix A, Transportation Systems Analysis, a portion of Key Forest Road 2600-890 would be changed from a motorized mixed-use road to a designated ATV Class I and III route, also allowing administrative traffic. Key Forest Road 2676-866 would be closed to all but administrative traffic. The portion of Key Forest Road 2690-810 west of the junction with 2690-860 would also be closed to all but administrative traffic, which prohibits public access to Sand Mountain Lookout.

## **Alternatives 3 as it Responds to the Significant Issues:**

### **Issue 1. Santiam Wagon Road SIA**

Alternative 3 reduces OHV use on the Santiam Wagon Road to approximately 3.8 miles of the historic road. It allows motorized mixed-use for Class I, II, and III vehicles only on the Sand Mountain Segment (HPMP). Of all action alternatives, Alternative 3 would provide the most protection to the Santiam Wagon Road while still allowing OHV use. The extent of the Santiam Wagon Road where motorized mixed-use is allowed includes Forest road 2690-810 east of the junction with 2690-860, and

Forest road 2690-811 from 2690 to the Forest Boundary at the Cascade Crest. This alternative rehabilitates all 6.0 miles of the Santiam Wagon Road within the project area to the historic route, profile, and width. It would provide for 5 OHV crossings and rehabilitate all user-created OHV crossings not incorporated into this action. Dispersed camping along the Santiam Wagon Road would be regulated and camping would be limited to 15 designated sites along the 2690-810 and 2690-811 portions in the SIA. Approximately 18.9 acres of existing dispersed camping sites in the SIA would be made unavailable and rehabilitated. Speed limits would be posted and enforced on Forest roads 2690-810, and 2690-811 within the project area.

## **Issue 2. OHV Spectrum of Opportunity**

Alternative 3 would provide a managed motorized trail system by establishing 57.5 miles of OHV routes. Routes are comprised of a combination of existing Forest roads, construction of trails that incorporate user-created tracks, and construction of new ATV Class I and III trails between Forest roads. Of the existing 68.2 miles of forest roads in the project area, 30.6 miles would be open to motorized mixed use, 12.1 miles would be open to ATV Class I and III only and 18.5 miles would be closed to all motorized use. Trail construction includes approximately 9.8 miles of new trail and 5.2 miles of user-created tracks, which would be open to ATV Class I and III.

This Alternative provides the greatest amount of ATV Class I and III trail system of any of the other Alternatives, with almost 10 miles of new ATV Class I and III trail development. One new day-use staging area would be located at the junction of Forest Road 2690 and 2690-860, and a second day use staging area would be established using the current parking facilities at Ray Benson Sno-Park. Both staging areas would provide a central point of contact for user education, trail information along with sanitation facilities as needed. Construction of the Kiddie Loop youth learning trail area between Forest Road 2690-891 and the Big Lake Road 2690 would provide a managed opportunity for beginning riders. A series of short loops and connective trails between existing dispersed camping areas and Big Lake Camp Ground would allow youth to develop ATV handling skills in a controlled open location. A second small Kiddie Loop youth learning trail area would be built near Ray Benson Sno Park.

## **Issue 3. Recreation User Conflicts**

Alternative 3 would designate 20 dispersed campsites within the regulated camping zone, with all 20 sites having direct access to the ATV trail system. A combination of campsite configuration and distribution would be designed to provide multi family gatherings along with single unit usage. Current campsites would be modified to establish camp area boundaries along with access to trail systems. This Alternative would reduce the total number of motorized crossing along the Pacific Crest Trail from 9 to 3. One crossing located along the Santiam Wagon Road, Forest road 2690-811, one along 2690-940, one along 2690-910, and one near the junction of 2690-920 on winter trail #3558. Informational signing and barrier placement would help prevent unintentional motorized access along the Pacific Crest Trail corridor.

Opportunities for non-motorized recreational activities in the project area for Alternative 3 would generally be the same as they are for Alternative 2. ATV travel would still be prohibited along non-motorized trail corridors, and non-motorized cross-country travelers would still encounter ATV activity at motorized trail and road crossings.

Alternative 3 closes the Santiam Wagon Road to all motorized travel west of junction with Forest Road 2690-860, which would enhance non-motorized travel along that portion of the Santiam Wagon Road. Hikers, stock users, and mountain bicyclist would have access to Sand Mountain and the west portion of the Santiam Wagon Road, and be able to tie into non-motorized trails outside of the project area without encountering motorized users, reducing the potential for user conflict more than Alternative 2.

Dust and noise associated with ATV use adjacent to Big Lake Campground and on the eastern portion of the project area would be the same as Alternative 2. The open area across from the entrance to Big Lake Campground would be rehabilitated to become a low speed trail access point. Establishment of the Kiddie Loop youth learner trail area near Big Lake Campground would also reduce the noise and dust currently associated with high speed activities occurring in that area north of the campground. A second 4-acre Kiddie Loop youth loop at Ray Benson would be near the Hoodoo Recreation Residences, which has a low potential for conflict with those residences due to the low ATV speeds and adult supervision likely to be present.

An area education and enforcement plan would be developed and implemented with the purpose of actively promoting responsible, appropriate, and legal behaviors within the project area. Information boards would be located at the staging areas and popular dispersed campsite areas.



**Figure 7. Map of Alternative 3.**



## Actions Specific to Alternative 4

Alternative 4 would implement the following actions, which satisfies the project purpose and need to provide a designated system of roads and trails for motorized recreation within the project area as directed by the Willamette Forest Plan and agency policy, to rehabilitate existing motorized recreation vehicle-impacts to the Santiam Wagon Road and to protect this heritage resource from future impacts, and to provide quality recreation opportunities in the project area that offer a positive, family-oriented experience.

Alternative 4 would include the actions described above beginning on page 33 that are common to all action alternatives, and it would implement the specific actions described below, displayed in Figures 6 and 9.

### Non Significant Forest Plan Amendment #49

Alternative 4 includes Forest Plan Amendment # 49, which implements the following:

4. A one-time exemption of Management Area Standard and Guideline **MA-5a-01** and **MA-10b-01**
5. Adding Management Area Standard and Guideline **MA-10b-04a**, and
6. The Management Area designation change from **MA-10e**, to **MA-10b** along Forest Trail #3558.

For a complete description of this non-significant amendment see page 33.

### Alternative 4 would also implement these following actions:

#### ATV Trail System Designation

- Designate 17.8 miles of Forest Road open to Motorized Mixed-Use.
- Designate 14.5 miles of Forest Road open to ATV Class I & III only.
- Close 24.3 miles of Forest Road to motorized use.
- Construct 6.6 miles of new motorized trails open to ATV Class I & III.
- Reconstruct 2.7 miles of user created tracks, which would be open to ATV Class I & III.
- Close 7.3 miles of user-created tracks to all motorized use and rehabilitate.

#### Santiam Wagon Road

- Designate 4.2 miles of the Santiam Wagon open to highway legal vehicles; including Forest road 2690-810 from the parking area below Sand Mountain Lookout to the junction of Forest Road 2690, and Forest road 2690-811 from the junction of 2690 to the Forest boundary.
- Close 1.8 miles of the Santiam Wagon Road to all motorized vehicles on Forest Road 2676-866 from the junction of 2676 to Forest road 2690-810.
- Rehabilitate all 6.0 miles of the Santiam Wagon Road within the planning area, to approximate historic route, profile, and width.

- Establish 2 clearly marked motorized trail crossings for the purpose of access to Big Lake Campground.
- Establish and post speed limits on the Santiam Wagon Road that apply to road segments within the project area, and include Forest road 2690-810 from the junction of 2676-866 to the junction of Big Lake Road 2690, and Forest road 2690-811 from the junction of 2690 to the Forest boundary at the Cascade crest.

### **Staging Area Development**

- Establish two day-use staging areas for off-loading ATVs from trailers at convenient locations: one located along the Big Lake Road at the junction of Forest Road 2690 and south side of 2690-860, and the other utilizing a portion of Ray Benson Sno Park for both day-use staging and parking. The staging areas would include user education and information kiosks, and a concrete pad for portable toilet facilities.

### **Dispersed Camping in the Regulated Camping Zone and Overnight Fee Camping**

- Designate 15 dispersed campsites within the Regulated Camping Zone, along Big Lake Road 2690 and Santiam Wagon Road the 2690-810. Only 4 campsites would have access to the motorized trail system.
- Block and rehabilitate 28 existing dispersed campsites that are not incorporated into this action (31.9 acres restored).
- Designate a section of Ray Benson Sno Park for overnight fee camping.

### **Open Play Area**

- Alternative 4 does **not** include an Open Play Area.

### **Kiddie Loop**

- Establish one Kiddie Loop youth learning trail area on approximately 4 acres northwest of Ray Benson Sno Park.

### **Changes to Key Forest Roads**

As described in Appendix A, Transportation Systems Analysis, a portion of Key Forest Road 2600-890 would be changed from a mixed-use road to a designated ATV Class I and III route designation, also allowing administrative traffic. Key Forest Road 2676-866 would be closed to all but administrative traffic. All of Key Forest Road 2690-810 west of the junction with 2690-860 to the Sand Mountain Lookout would be open to highway legal vehicles only.

### **Alternatives 4 as it Responds to the Significant Issues:**

#### **Issue 1. Santiam Wagon Road SIA**

Alternative 4 would prohibit OHV use on the all portions of the Santiam Wagon Road SIA. It would still allow use of highway-legal vehicles on the Forest road 2690-810 portion from the junction of the

2690-860 to the east, and on the 2690-811 portion from its junction with Forest road 2690 to the Cascade crest. By prohibiting OHV use on any segment of the road, Alternative 4 is the most restrictive of all action alternatives, and it provides the greatest protection of the historic wagon road from further ATV impacts.

This alternative rehabilitates all 6.0 miles of roadway to the historic route, profile, and width. It would construct and clearly mark 2 OHV trail crossings at existing crossing sites for access to the Big Lake Campground Complex. It removes all other user-built OHV crossings not incorporated into this action and it rehabilitates them. Dispersed camping along the Santiam Wagon Road would be regulated and camping would be limited to 10 designated sites along the 2690-810 and 2690-811 portions. Approximately 21.5 acres of existing dispersed camping sites in the SIA would be made unavailable and rehabilitated. Speed limits would be posted and enforced on Forest roads 2690-810, and 2690-811 within the project area.

### **Issue 2. OHV Spectrum of Opportunity**

Alternative 4 would provide the smallest managed motorized trail system of all action alternatives. It establishes approximately 41.6 miles of OHV routes. Routes are comprised of a combination of existing Forest roads, construction of trails incorporating user created tracks, and construction of new ATV Class I and III trails between Forest roads. Of the existing 68.2 miles of forest roads in the project area, approximately 17.8 miles would be open to motorized mixed use, 14.5 miles would be open to ATV Class I and III only, and 24.3 miles would be closed to all motorized use. Trail construction includes approximately 6.6 miles of new trail and 2.7 miles of user-created tracks, which would be open to ATV Class I and III.

This Alternative maximizes utilization of the existing system roads for ATV Class I and III and has fewer miles of new motorized trail construction than in Alternative 2 or 3. Alternative 4 would close more of the existing road system to all motorized use, and it has the least miles open for motorized mixed-use.

One new day-use staging area would be located at the junction of Forest Road 2690 and 2690-860, and a second day-use staging area would be established using the current parking facilities at Ray Benson Sno-Park. Both staging areas would provide a central point of contact for user education, trail information along with sanitation facilities as needed. A small 0.4 acre Kiddie Loop youth learning trail area would be built near Ray Benson Sno Park.

### **Issue 3. Recreation User Conflicts**

Alternative 4 would designate 15 dispersed campsites within the regulated camping zone. However, none of the designated dispersed campsites along the Santiam Wagon Road west of Forest Road 2690-895 would have ATV trail access. All campers with ATVs would be required to trailer their recreational vehicles to staging areas or trail access points. Designated dispersed campsites west of Forest Road 2690-895 would become more desirable to non-motorized users. A combination of camp site configuration and distribution would be designated to provide multi family gatherings along with

single family usage. This alternative reduces crossings over the PCT from 9 to 2, with one located at trail #3558 (Class I and III) and the other on the Santiam Wagon Road 2690-811 (highway legal vehicles only).

This alternative would close all Forest roads to motorized travel south of the Santiam Wagon Road, 2690-810 between the west end of Big Lake Campground and Sand Mountain, which would lower the potential for conflict with non-motorized users the most. Non-motorized users would be able to travel cross country and along the existing road system in this area without encountering motorized activity. Noise and dust associated with motorized use around Big Lake Campground would be notably reduced with most of the motorized trail system located north of the Santiam Wagon Road. Two clearly marked trails for Class I and III ATVs would cross the Santiam Wagon Road to provide access to the campground from the motorized trail system.

An area education and enforcement plan would be developed and implemented with the purpose of actively promoting responsible, appropriate, and legal behaviors within the project area. Information boards would be located at primary staging areas and popular dispersed camp areas.

**Figure 8. Map of Alternative 4.**





## Mitigation Measures and Design Elements Common to All Action Alternatives

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Mitigation Measures: Council of Environment Quality (CEQ) Regulations (§ 1508.20) defines Mitigation as:

- Avoiding the impact altogether by not taking a certain action or certain parts of an action.
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- Rectifying the impacts by repairing, rehabilitating, or restoring the affected environment.
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of an action.
- Compensating for the impact by replacing or providing substitute resources or environments.

Mitigation measures and design elements would be implemented and incorporated during project layout as contract specifications and through contract administration. Monitoring would be performed by Forest Service officers to assure these measures are implemented.

### Mitigation Measures

#### Cultural Resources:

1. For all action alternatives, restore the 6.0 Miles of the wagon road from Eno Road to the Forest Boundary to its 1980s alignment, profile and width. In many places this means grading the road bed and narrowing the road to the 15-18 ft. range, and rehabilitating user-created crossings and play areas.
2. Within the Santiam Wagon Road SIA boundary, block and restore with native vegetation the dispersed campsites that are not designated within the regulated camping zone, and user-created tracks.
3. Speed limits will be posted on historic Santiam Wagon Road within the project area on Forest roads 2676-866, 2690-810, and 2690-811, when designated for OHV use, enforceable under a Forest Order.
4. Once on the Wagon Road, all motorized vehicles may get off only at designated crossings or at designated dispersed campsites within the regulated camping zones.
5. Natural barriers will be constructed to protect sensitive resource areas from impacts by motorized vehicles within the project area.
6. In order to extend protection to heritage resources which have not yet been discovered, but which may be uncovered during the course of project activities, appropriate contract language must be included in all project prospectus and contracts which outlines the procedures to follow in the event heritage resources are inadvertently discovered or disturbed during project activities. If material is inadvertently discovered, suspend operations and consult the District Archaeologist.

7. For any modifications to the specified locations of facilities development (trails, crossings, and staging areas) that arise during implementation, consultation with the District Archaeologist will be required. When previously unknown cultural resources are discovered during ground-disturbing operations, work would be halted and the cultural resource site in question would be evaluated as to National Register of Historic Places (NRHP) eligibility by a qualified professional archaeologist.

A cultural site discovered during construction of roads or trails may require the redesign of the road or trail, use of protective overburden, or use of an alternative route. Other mitigations that may be utilized include a change in equipment or season of operation, which would require consultation with the State Historic Preservation Office (SHPO) and federally recognized Indian tribes before the project work can resume.

#### **Mitigation Measures for Soils and Watershed Protection:**

8. New routes will not be designated or constructed within Riparian Reserves.
9. Re-establishment of vegetation at existing disturbed sites will be through natural re-vegetation, or by seeding or planting of native species only.

#### **Wildlife**

10. Seasonal Restriction would be implemented on tree felling during OHV trail construction from March 1 – July 15 in proximity to TES habitat. Trees that are felled for this project are to be left on site with the exception of the smaller lodgepole pine trees at the proposed staging areas.

#### **Noxious Weed Control**

11. Disturbed areas (road shoulders, staging areas) would be re-vegetated with weed-free native seed to compete with noxious weed seed. Weed-free mulch would be used if necessary.
12. Off road, ground disturbing equipment during implementation will be washed prior to entering National Forest System land. Equipment will be free of all seed and debris that may contain plant seeds such as soil and vegetation.
13. Material brought in for construction, such as fill soil, gravel, and straw will be free of vegetative material and weed seed.

#### **Design Elements**

##### **Cultural Resources:**

1. Close the Eno Segment of the Santiam Road, from Eno Road east to the 860 road to all public motorized vehicles (represented in Alternative 3).
2. Display signs on the Santiam Wagon road with a wagon road logo to inform user that they are on the historic road.

3. Create a brochure with a map, historic photos, remembrances of travel on the road and a clearly articulated historic preservation message.
4. Delineate and post the wagon road to allow for protection and enhancement of the corridor.
5. Access into the dispersed campsites should be clearly marked and bounded with boulders or other natural barriers to help protect the Santiam Wagon Road and SIA from further adverse effects.
6. Regular monitoring of the Wagon Road, the SIA, and other heritage sites by the district archaeologist or other cultural resource personnel is essential to insure protection of the resource after implementation of this project.

### **Noxious Weed Control**

7. Monitoring for changes in existing populations or new occurrences of noxious weeds will be done for the project area.

### **Other Actions Analyzed**

The following actions would also occur within the project area. Site-specific information regarding these actions is available at the McKenzie River Ranger District.

**Noxious Weeds** – As described in Mitigation Measures above, noxious weeds would be treated with manual methods such as pulling and cutting. Treatments may occur along roads and user-created tracks where needed, and throughout the project area. Monitoring of the treated sites would occur to determine if multiple treatments are necessary.

**Road Maintenance Presently Under Contract on the Santiam Wagon Road** – The McKenzie River District has awarded a road maintenance contract to reshape the section of the Santiam Wagon Road between the Big Lake Road and Sand Mountain (2690-810, and a portion of 2676-866). The road maintenance work, scheduled for spring 2008, would involve a minimum of four passes using a grader to remove any irregularities (potholes or wash boarding), reprocess segregated materials, re-establish or re-define road width, and establish a minor crown (2%) for surface drainage in hopes to create some surface stability. Areas with the large corrugations or sand moguls may require ripping and reshaping to establish the correct road template.

### **OHV Use Monitoring Applicable to All Action Alternatives**

The following types of implementation monitoring would be conducted to determine if actions moved forward from this analysis in the forthcoming decision manages recreation effectively within the project area to meets desired future conditions.

1. Recreationists would be periodically surveyed to aid in determining trends in total numbers and types of trail system users, changes in their levels of satisfaction with their recreation experience, and changes in the number of conflicts occurring.
2. Project activities would be monitored by the District Resource Specialists during project implementation for compliance with design criteria. Periodic monitoring of trail use,

application of mitigation measures, effectiveness of resource protection measures, user compliance, law enforcement needs, education efforts, maintenance and reconstruction needs, estimates of funding needs, and effects of other management activities on this project would be evaluated and documented.

3. Monitoring would also be conducted periodically to determine the compliance levels on newly designated trails and marked crossings on the Santiam Wagon Road. If noncompliance is a constant problem, it would be addressed through rerouting or closure of that trail segment.
4. Monitoring would be conducted to develop a history of accidents or near misses on roads designated as motorized mixed-use.

## Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Information in the table is focused on activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives.

**Table 2: Comparison of Roads Open or Closed by Alternative.**

Comparison Criteria	Alt. 1, No Action	Alt. 2	Alt. 3	Alt. 4
<i>Miles Open to Motorized Mixed Use</i>	61.2	37.3	30.6	17.8
<i>Miles Open to ATV Class I and III only</i>	0	7.6	12.1	14.5
<i>Miles Closed to All Motorized Vehicles</i>	0	16.3	18.5	24.3
<i>Miles Open to Highway Legal Vehicles</i>	7.0	7.0	7.0	11.6

**Table 3: Comparison of Trails by Alternative.**

Comparison Criteria	Alt. 1, No Action	Alt. 2	Alt. 3	Alt. 4
<i>Miles of User-Created Tracks Reconstructed as ATV Class I and III Trail</i>	0	4.4	5.2	2.7
<i>Miles of New ATV Class I and III Trail Construction</i>	0	7.9	9.8	6.6
<i>Miles of User-created Tracks Rehabilitated</i>	0	5.6	4.8	7.3
<i>Total Miles of Proposed ATV Class I and III Trails</i>	0	12.3	15.0	9.3

## Comparison of Alternatives by Significant Issues

Table 4: Comparison of Alternatives – Santiam Wagon Road SIA.

<b>Issue 1. Santiam Wagon Road SIA</b>				
<b>Issue Measurement Criteria</b>	<b>Alternative 1 No Action</b>	<b>Alternative 2</b>	<b>Alternative 3</b>	<b>Alternative 4</b>
<b>Miles of Santiam Wagon Road that is restored to the historic width and profile.</b>	0 miles	6.0 miles	6.0 miles	6.0 miles
<b>Number of OHV designated crossings provided.</b>	N/A	8 Crossings	5 Crossings	2 Crossings
<b>Number of designated dispersed campsites and acres of dispersed campsites removed and restored in SIA.</b>	29 existing Campsites 0 acres Restored	18 Campsites Designated 17.3 acres Restored	15 Campsites Designated 18.9 acres Restored	10 Campsites Designated 24.5 acres Restored

Table 5: Comparison of Alternatives – OHV Spectrum of Opportunity.

<b>Issue 2. OHV Spectrum of Opportunity</b>					
<b>Issue Measurement</b>	<b>Units of Measure</b>	<b>Alternative 1 No Action</b>	<b>Alternative 2</b>	<b>Alternative 3</b>	<b>Alternative 4</b>
<b><i>ATV Class I &amp; III (Roads)</i></b>	<b>Miles</b>	61.2	44.6	42.7	32.3
<b><i>ATV Class I &amp; III (Trails)</i></b>	<b>Miles</b>	0	12.3	15.0	9.3
<b><i>ATV Class II (Roads)</i></b>	<b>Miles</b>	61.2	37.3	30.6	17.8

Table 6: Comparison of Alternatives – Recreation User Conflicts.

<b>Issue 3. Recreation User Conflicts</b>					
<b>Issue Measurement</b>	<b>Units of Measure</b>	<b>Alternative 1 No Action</b>	<b>Alternative 2</b>	<b>Alternative 3</b>	<b>Alternative 4</b>
<b><i>Motorized crossings along the PCT</i></b>	<b>Each</b>	9	4	3	2
<b><i>Dispersed Campsites with direct ATV trail access</i></b>	<b>Each</b>	43	34	20	4
<b><i>Dispersed Campsites without direct ATV trail access</i></b>	<b>Each</b>	0	0	0	11

## Chapter 3. Environmental Consequences

This section summarizes the physical, biological, social and economic environments of the affected project area and the potential changes to those environments due to implementation of the alternatives. It also presents the scientific and analytical basis for comparison of alternatives presented in Chapter 2.

The cumulative effects discussed in this section include an analysis and a concise description of the identifiable present effects of past actions to the extent that they are relevant and useful in analyzing whether the reasonably foreseeable effects of the agency proposal for action and its alternatives may have a continuing, additive, and significant relationship to those effects. The cumulative effects of the proposed action and the alternatives in this analysis are primarily based on the aggregate effects of the past, present, and reasonably foreseeable future actions. Individual effects of past actions are not listed or analyzed, and are not necessary to describe the cumulative effects of this proposal or the alternatives. (CEQ Memorandum, Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, June 24, 2005.)

### Transportation Systems ---

#### Affected Environment

Past management activities in and near the Santiam Pass Summer Motorized Recreation Project area have provided the current network of Forest Roads, mainly from timber sales, past fire suppression efforts and historical freight routes. The current system of roads provides sustainable access to the area for administration, fire protection, public recreation, and forest product utilization, consistent with the Willamette Forest Plan. This section incorporates by reference the Willamette National Forest Road Analysis Report (USDA Forest Service. 2003), which provides detailed information regarding the Forest roads, describing maintenance levels, maintenance costs, and management direction.

#### Scale of Analysis

The analysis considers the current condition and affects of proposed action on the transportation system in the Santiam Pass Summer Motorized Recreation Project. The project area includes 68.2 miles of Forest system roads all within the McKenzie River Ranger District.

#### Existing Condition of the Road System

Forest road 2690, known as the Big Lake Road, is a double-lane asphalt surfaced road that provides the primary access to the east side of the project area from U.S. Hwy 20. Aggregate surfaced Forest Road 2600-830, known as the Potato Hill Road, and native surface Forest Road 2600-890 are single lane roads that provide access to the central portion of the project area from U.S. Hwy 20. Forest roads 2676-866, 2690-810, and 2690-811 are all single lane native surface roads that together comprise the historic Santiam Wagon Road within the project area, and provide access through the

south end of the project area. Another important Key Forest road is road 2676, an aggregate-surfaced single-lane road known as the Eno Road, provides access along the west project area boundary. These Key Forest Roads, along with other numerous secondary roads that are predominately surfaced with native material, are identified in the tables of Appendix A. Approximately 1.28 miles of the Forest roads are currently closed with berms or other structures.

The current road system provides public recreation opportunities within the project area at Big Lake Campground Complex on the west side of Big Lake, to Ray Benson Snow Park, Hoodoo Ski Area facilities, and to various hiking trails and well-used dispersed campsites. The road system also allows the Forest Service administrative access in order to conduct a wide variety of forest management and fire protection activities in the area. Specifically, the Forest roads provide access to Sand Mountain fire lookout, a communication site, private recreation residences, an Oregon Department of Environmental Quality (DEQ) air quality monitoring site, the Big Lake Youth Camp, and Santiam Pass stockpile site (used by ODOT). In addition, current roads provide the means to transport timber products from the National Forest, and the roads allow the public access to obtain firewood and special forest products.

The road system receives annual maintenance in accordance with established road management objectives. However, a limitation on road maintenance funds on the Forest over the last decade has resulted in a backlog of maintenance work to reduce brush, clean out drainages, and repair road surfaces on many of the Key and secondary roads in the project area.

## **Environmental Consequences**

### **Effects of Alternative 1**

Alternative 1 would not change the current use pattern of the existing road system. Road maintenance would continue in accordance with established road management objectives on roads within the project area. Due to the declining road maintenance budgets vehicle use on many of the existing low standard roads would most likely continue to increase the existing backlog of road maintenance needs. This could eventually result in unsafe traveling conditions for public and administrative traffic and continue to impact the resources.

### **Effects of Alternatives 2, 3, and 4**

#### **Direct and Indirect Effects**

Under all action alternatives, road maintenance would continue according to established road management objectives. Such activities may include brushing roads to increase sight distance to improve visibility for safe driving, blading, ditch maintenance, culvert replacement, surface rocking, and installing dips or waterbars to correct or improve water drainage. However, the limitation on road maintenance funds on the Forest over the last decade has resulted in a backlog of maintenance work to reduce brush, clean out drainages, and repair road surfaces on many of the Key and secondary roads in the project area, and that trend is expected to continue.

After actions that include administrative road closures, conversion to motorized trail, and decommissioning, the open road density within the project area would be reduced from approximately



68.2 miles to 51 miles in alternative 2 (least effect) or from 68.2 miles to 40 miles in alternative 4 (greatest effect) as identified in Chapter 2 and Appendix A, Transportation System Analysis.

All action alternatives would designate existing low-standard roads within the planning area to motorized trails to be used by Class I and III ATV use, and to administrative traffic as identified in Appendix A. Actions to convert roads to trails may consist of narrowing the existing surface width and existing road junctions by mechanical or natural means that accommodates vehicles up to 50” in width. Closure may include installation of berms, placement of boulders, and using vegetation or other methods to exclude vehicle traffic.

All action alternatives would decommission existing low-standard roads within the project area as identified in Appendix A. Decommissioning may consist of installing berms or boulders, de-compaction of the road surface, installation of waterbars or allowing natural re-vegetation to occur. Alternative 2, having the least effect on mileage reduction, would decommission approximately 7 miles of road, while alternative 4, having the greatest effect on reducing miles of system roads, would decommission approximately 10 miles. Decommissioning would have the effect of decreasing access to the public, for commercial uses, and for administrative uses. There would be a decrease in the current effective open road density and a reduction of existing road surface erosion problems and road maintenance costs. Roads closed by the project would be left in a condition to drain properly. Road decommissioning would also reduce the spread of noxious weeds as described in the Botany section.

### **Cumulative Effects**

The area considered for cumulative effects analysis for transportation systems is the project area because none of the roads affected by this project provide major transportation connections with other forest roads outside the project area. Changes to the transportation system of forest roads within the project area would have a negligible effect on other forest roads outside the area.

The effects of past management actions in this area has created a 68.2-mile road system within the project area that requires consistent road maintenance levels to provide adequate resource protection and safety. The foreseeable future action of road maintenance on the Santiam Wagon Road scheduled in the spring of 2008 would improve Forest roads 2676-866, 2690-810. This action is described in Chapter 2, Other Actions Analyzed. The work would remove the corrugations and moguls and recondition the surface of the road to a more historical profile. There are no other foreseeable future management actions that would contribute additional change in the system road mileage within the project area.

The cumulative effect of all action alternatives analyzed in this proposal on Forest roads would be a reduction of the miles of road available within the project area that are currently open to all Highway Legal, ATV use and public access, depending on the action alternative. System roads open for motorized mixed use would be reduced by approximately 23 miles in Alternative 2, 30 miles in Alternative 3, and 34 miles in alternative 4, and the limited available funds for road maintenance would be applied to fewer miles of road in this area with any of the alternatives. Reductions would take place by converting existing roads to motorized trails to be used by Class I and III ATV traffic,

designating roads for Administrative use only, and road decommissioning as identified in Chapter 2 and Appendix A.

## Soils

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### Affected Environment

The project area consists of young volcanic terrain that originated from eruptions of vents in the Sand Mountain complex, and has experienced little subsequent glacial alteration. Consequently, this landscape has relatively low relief and is composed of recent basalt and andesite flows with coarse volcanic cinder soils. The Willamette National Forest Soil Resource Inventory (SRI), (USDA Forest Service, 1973) identifies the dominant soil mapping types in the project area as Mapping Units 5, 81, 82, and 85 as well as complexes that consist of combinations of these land-types. These soils consist of volcanic sands and cinders, and are droughty and cold, and develop vegetative cover very slowly. The soils are prone to mechanical displacement when disturbed, but due to high infiltration rates that limit runoff, they typically do not travel far as a result of water borne erosion. Small areas of Mapping Unit 3 (talus slopes on Hayrick Butte) and Mapping Unit 6 (non-forested wet areas adjacent to Big Lake) also occur in the project area.

Field reconnaissance for this project has confirmed the accuracy of the SRI mapping for the project area, and has identified areas of existing disturbance. Recreational OHV use has resulted in disturbed and displaced soils in the following portions of the project area: along a network of existing user-created tracks, adjacent to native surfaced Forest roads and trails, in and near dispersed camping sites, and near the sand blow-out area adjacent to Sand Mountain SIA. Mechanical displacement associated with this disturbance has little real effect on soil productivity in these young, coarse textured soils, and the lack of runoff and low stream density in the area minimizes concerns relating to sediment yield. However, this disturbance has resulted in long lasting alteration of the natural visual landscape. This disturbance also has disrupted fragile plant communities in this harsh environment, and the integrity of archaeological sites.

Streams are relatively scarce in this landscape due to the lack of glaciation, and to the relative youth of the terrain where erosion has not yet created a drainage network. Field reconnaissance of the project area found that many of the stream courses identified on the initial project stream mapping did not actually exist. Streams that were found not to exist have been removed from project maps.

The streams within the project area that do exist do not have a surface connection to the McKenzie River. These streams occur in the northern part of the project area and terminate into Lost Lake, which has no surface outlet and is separated from surface flows in the McKenzie River by nearly 5 miles of recent lava flow terrain. This effectively isolates potential surface impacts to water quality in the project area from having down stream effects on water quality in the river.

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## **Environmental Consequences**

### **Scale and Method of Analysis**

Since the project area occupies a closed basin that is isolated hydrologically from the McKenzie River, the analysis for soil and water effects will be conducted on the project area. An assessment of the extent of disturbed soils was made by inventorying the amount of existing road and road related recreational use in the project area, and estimating the extent of displaced soils associated with each use. Estimates were developed based on historic records, aerial photography, and field verification. The following past and ongoing activities were also considered in the analysis: Santiam Forest Health Project Timber Sales, Potato Salvage Timber Sale, B&B Fire, Hoodoo Resort, Benson Snow Park, Big Lake Youth Camp, Santiam Summer Recreation Residences, ODOT facilities, and Santiam Airstrip.

### **Effects of Alternative 1**

This is the No Action alternative that will serve as the baseline for evaluating the effects of the action alternatives. Under this alternative, approximately 677 acres of road and road related recreation disturbance that have resulted in soil displacement would continue to persist. Field observation suggests that use and associated disturbance is increasing in the project area. However the rate and extent of future use and disturbance cannot be accurately predicted.

In addition, approximately 571 acres of disturbance and related soil displacement that is associated with other past and ongoing activities exist in the project area. Field observation suggests that where activities are not ongoing, these areas are slowly re-vegetating in these cold, droughty soils.

When soil disturbance and displacement from all sources is totaled, approximately 1,248 acres or 9.01% of the project area have been impacted. Nevertheless, this is well within the 20% standard for detrimental soil conditions required under Standard FW – 081 in the Willamette Forest Plan (USDA Forest Service. 1990).

### **Effects of Alternatives 2, 3, and 4**

#### **Direct and Indirect Effects**

The direct and indirect effects associated with the action alternatives are changes in the amount of disturbed and displaced soil in the project area. Areas that are actively restored through actions such as road decommissioning directly reduce the amount of area that has been disturbed and displaced. Other actions such as road closure and limiting camping access would indirectly reduce the extent of disturbed and displaced soil over time as these areas restore themselves naturally in the absence of recreational motorized vehicle use. The following table summarizes the amount of road and road related recreation disturbance, and the amount of active and passive restoration associated with each of the action alternatives. Information for the No Action Alternative is included for comparison.

Table 7: Acres of Road and Road-related Recreation Soil Disturbance.

Management Activity	Units of Measure	Alt. 1 No Action	Alt. 2	Alt. 3	Alt. 4
<i>Existing Road and Road Related Recreation Soil Disturbance</i>	Acres	677	445	405	346
<i>Amount of Active Soil Restoration</i>	Acres	0	34	35	48
<i>Amount of Passive Soil Restoration</i>	Acres	0	197	237	283
<i>Total Amount of Restored Soils</i>	Acres	0	231	272	331

Each of the action alternatives substantially reduces road and road related recreation soil impacts in the project area compared to the no action alternative. The action alternatives also differ substantially from each other, creating a range of outcomes with respect to the amount of soil restoration that is accomplished.

### Cumulative Effects

The area considered for cumulative effects analysis for soils is the project area. In addition to the direct and indirect effects of the action alternatives, this analysis evaluated the effects of other past and ongoing activities, as well as reasonable foreseeable future activities. Activities included in this analysis were previously identified in the discussion of analysis methods. The following table summarizes the amount of road and road related recreation disturbance associated with each of the action alternatives, as well as disturbance associated with past and ongoing activities. With the exception of regular road maintenance, there are no reasonably foreseeable activities that could be accurately quantified were identified. The cumulative amounts of soil disturbance are presented both as an absolute value and as a percentage for comparison with Forest Plan standards. Information for the No Action Alternative is included for comparison as well.

Table 8: Cumulative Effects of Road and Road-related Recreation Soil Disturbance.

Evaluation Factors	Units of Measure	Alt. 1 No Action	Alt. 2	Alt. 3	Alt. 4
<i>Existing Road and Road Related Recreation Soil Disturbance</i>	Acres	677	445	405	346
<i>Other Past, Present, and Reasonably Foreseeable Soil Disturbance</i>	Acres	571	571	571	571

<b>Evaluation Factors</b>	<b>Units of Measure</b>	<b>Alt. 1 No Action</b>	<b>Alt. 2</b>	<b>Alt. 3</b>	<b>Alt. 4</b>
<b><i>Cumulative Soil Disturbance</i></b>	Acres	1248	1016	976	917
<b><i>Percent of Project Area Impacted</i></b>	%	9.01	7.34	7.04	6.62

Each of the action alternatives substantially reduces the cumulative level of soil disturbance in comparison with the No Action alternative. All alternatives, including the No Action alternative, are well within the 20% standard for detrimental soil conditions required under Standard FW – 081 in the Willamette Forest Plan.

### **Aquatic Conservation Strategy Objectives**

As was previously documented in the Affected Environment discussion, the project area has very few streams, and the streams that do occur in the project area are not surface connected to other portions of the watershed. Also, gentle terrain and infiltrative soils limit the transport distance of sediment by way of water borne erosion. Mitigation measures 8 and 9 on page 60 require that new routes not be designated or constructed within Riparian Reserves, and that existing disturbed sites are to be re-vegetated naturally, or seeded or planted with native species only. Therefore, meaningful effects on ACS Objectives 1 through 8 (either positive or negative) are unlikely considering the favorable conditions in the project area, and that no new facilities are proposed within Riparian Reserves.

In the previous discussion of effects by alternative, the primary effect of each alternative is a net reduction in the amount of soil disturbance within the project area. As vegetative restoration of these areas occurs, either actively or passively, native plant habitats will improve as well as associated habitats for vertebrate and invertebrate riparian dependant species. This will result in a positive trend toward meeting ACS Objective 9.

## **Heritage Resources**

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### **Prehistoric Use**

The ethnographic evidence places the Molala as the inhabitants of the portion of the Western Cascades that is currently administered as the Willamette National Forest. Thus the Molala (probably the Santiam Band) are generally considered the primary inhabitants for the purposes of ethnographic analogy. Toepel and Beckham (Beckham, et al. 1981) describe a Molala lifestyle which focused on hunting and plant and animal resources of the small upland prairies. Winter occupation of low elevation multiple family pit house villages complemented the seasonal subsistence rounds into the higher elevations. Several other Native American ethnic groups also may have used this Santiam Pass area for seasonal travel, hunting and foraging. These included the Tenino (from the Warm Springs country east of the Cascade Crest, and possibly the Northern Paiute (from the Northern Desert Great Basin).

## **Affected Environment – Historic Use, Santiam Wagon Road SIA (Issue 1)**

The Santiam Wagon Road is considered the preeminent cultural site within the project area due to its location and access that it has historically provided the area. Former Forest Archaeologist John Stutesman formally evaluated the Santiam Wagon Road in 1983. Constructed in the 1860s, the Santiam Wagon Road began as a commercial trans-Cascade toll road. During the WWI era the wagon road reverted to Linn County ownership and since then portions of the road have been abandoned and other portions have become a Forest Service road. As one of the first trans-Cascades roads, it served to connect the Willamette Valley to eastern Oregon. Large quantities of freight and stock were driven over the road in its heyday. In its long history since development in the 1860s, these segments have served variously as a trans-Cascade toll route, a secondary county road, a Forest Service system road for fire suppression and timber harvest, and as a recreational destination and access node for campers, equestrians, hunters, and OHV enthusiast.

Under the Santiam Wagon Road Special Interest Area and Santiam Wagon Historic Property Management Plan, (HPMP) (Lindberg and Kelly. 2006), the 27-mile Santiam Wagon Road was divided into 14 segments for ease of discussion and management. The plan outlines each segment's condition along its 27 mile length across the Forest. These segments were in turn rated and ranked according to condition and integrity. The plan provides a description of each segment, its location, current and desired future condition, and management recommendations. Recommendations are primarily directed toward correction of existing deterioration and rehabilitation of features or attributes to restore the "location and setting" a term used for the National Register of Historic Places (NRHP) to determine eligibility.

Three cultural sites have been recorded within the project area, and prior to this inventory, two historic sites and one prehistoric site had been recorded within or adjacent to the project area. These sites are either eligible or potentially eligible to the National Register of Historic Places (NRHP) and must be protected from project activities or evaluated to determine their eligibility to the NRHP.

### **Historic Sites**

Two of the HPMP segments of the Santiam Wagon Road (Eno segment and Sand Mountain segment) are located within the project area. As previously mentioned, since development in the 1860s, these two segments have served as a trans-Cascade toll route, a secondary county road, a Forest Service system road for fire suppression and timber harvest, and served campers, equestrians, big game hunters, and OHV enthusiasts as an access node for recreation. The single greatest threat to the road is loss of integrity due to unregulated high speed OHV use.

The Eno Road segment, along Forest road 2676-866, is about 2 miles long beginning at Road 2676, runs adjacent to the Sand Mountain SIA, changes to Forest road 2690-811, and ends at its junction with Forest road 2690-860. This segment is the steepest, rockiest portion of the wagon road. It has several "braided" portions that appear to be quite old, most of them in rough rocky areas. Those braided locations are worthy of preservations since they typify conditions in the 19<sup>th</sup> Century. The

Eno segment road bed is more stable (i.e. less sand) than the Sand Mountain segment to the east. The desired condition on this segment is to enhance and improve the width, corridor, and forest canopy.

The Sand Mountain segment includes both Forest roads 2690-810 and 2690-811. The segment begins on Forest road 2690-810 at its junction with Forest road 2690-860, and ends on the east end of Forest road 2690-811 at the boundary between Deschutes and Willamette National Forest. This segment has been impacted by the 1967 fire, and subsequent vehicle use on and off the Santiam Wagon Road to cut firewood left behind from the fire suppression. The firewood cutters and later the recreational OHVs have created numerous user-created tracks on either side of the Santiam Wagon Road. This segment has the heaviest dispersed camping use due to its proximity to Highway 20, the Pacific Crest Trail, and to Hidden Valley east of Big Lake on the Deschutes National Forest. There are several instances of road widening in this segment such that the single wheel track nature of the roadbed is obscured, with most occurring between Road 2690-860 and Road 2690,. Most of this widening has occurred in the past twenty years.

The condition of this segment continues to worsen each year due to the depth and number of moguls created by high speed OHV use. Under the HPMP, the desired condition includes beginning the process of bringing back the historic road width. Management recommendations include protecting and enhancing the corridor by delineating and posting the Santiam Wagon Road, removing the moguls, and improving the forest canopy by maintaining the cultural landscape (HMPM 2006).

A portion of the 1887 Oregon Pacific Railroad wagon supply route was recorded under the current project. This supply route was used for transport of goods and material during the construction of the Oregon Pacific Railroad line. Work on the Oregon Pacific Railroad was done piecemeal in the Santiam Pass area, which was quite unusual as most other railroads were built and re-supplied by train as rail was laid on completed grade. This piecemeal method of construction made the Santiam Wagon Road a critical entity in the logistical system for the Oregon Pacific at Santiam Pass. Work crews, supplies, and materials were freighted up the Santiam Wagon Road, then from the Fish Lake and Big Lake areas supplies were transported on “service” wagon roads or trails. The segment of this road within the project area has been used by the public over the past few decades as Forest road 2690-911 and 2690-910.

## **Environmental Consequences**

The following addresses effects of alternatives on Significant Issue 1 – Santiam Wagon Road SIA. The SIA is delineated as a 330 foot wide buffer from the centerline, along each side of the Santiam Wagon Road as designated in the Willamette Forest Plan.

### **Effects of Alternative 1**

Alternative 1 would take no action to change the current condition of the Santiam Wagon Road SIA, except for the existing road maintenance contract scheduled for completion in spring 2008, from Big Lake road to Sand Mountain. This alternative would result in continued adverse affects on heritage resources from OHV use. Vigorous high speed use of Class I and III ATVs has resulted in widening and deepening of the road bed, exposure of large rocks and the build up of sand moguls. Many user-

created OHV trail crossings have also contributed to road surface material displacement and road widening. Under this alternative summer motorized recreation use at Santiam Pass would continue to be managed as it currently is.

The No-Action Alternative would not remove and restore the existing user-created crossings on the Santiam Wagon Road beyond the road maintenance that is scheduled for spring 2008. The portions of the road that have been impacted by unregulated OHV use would not be further rehabilitated and restored to the historic route, profile, and width. Since OHV use would remain unchanged on all segments of the historic wagon road over time, there is likely to be continued degradation of the NRHP eligible Santiam Wagon Road over time. Dispersed camping along the Santiam Wagon Road would continue to be unregulated on campsites that together, amount to approximately 40 acres. No speed limits would be implemented or enforced, and no signs to inform the public about the historic road would be installed along its route.

With no changes in current use, the effects of soil and rock displacement, mogul creation, vegetation loss, and road widening would continue, resulting in long lasting alteration of the integrity of location and setting to the Santiam Wagon.

## **Effects of Alternatives 2**

### **Direct and Indirect Effects**

**OHV, Road and Trail Development and Santiam Wagon Road:** Implementation of Alternative 2 would allow the use of Eno and Sand Mountain HPMP segments of the wagon road within the project area, and is the least prohibitive of the action alternatives for motorized vehicles use on the Santiam Wagon Road. The 6.0 miles of the Santiam Wagon Road would be open to motorized mixed-use, which includes ATV Classes, I, II, III, and highway legal vehicles.

Alternative 2 would include construction of 8 clearly marked crossings over the wagon road and it closes and rehabilitates user-created OHV crossings not incorporated. This alternative would rehabilitate all 6.0 miles of the Santiam Wagon Road as needed, to the approximate historic route, profile, and width, and it would establish speed limits on Forest roads 2676-866, 2690-811, and 2690-810, which would be implemented through a Forest Order. Speed limits are likely to be from 15 to 25 mile per hour depending on location.

**Staging areas:** Two “Day Use” staging areas would be established for off-loading OHVs from trailers and parking. One of the areas would be located along the Big Lake Road at the junction of Forest Road 2690 and the south side of 2690-860. The other staging area would be located at the junction of Forest Road 2690 and north of the 2690-810 portion of the Santiam Wagon Road, just north of the SIA boundary. Staging areas would have no effect on heritage resources. Natural protection barriers would define the limits of these staging areas and keep the staging areas from widening over time.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 2 is also the least prohibitive with regard to dispersed camping along the Santiam Wagon Road SIA, and would include 18 camp sites at 1/2 acre each along the 2690-810 and 2690-811 portions only, for a total of 9.3 acres of encroachment by campsites along the 6 miles of Santiam Wagon Road. Both the number and acreage



of the dispersed campsites in the Santiam Wagon Road SIA would be reduced from the present condition which would begin to restore a limited portion of the SIA. A total of 11 existing dispersed campsites or approximately 17.3 acres would be rehabilitated.

**Open Play Area and Kiddie Loop:** Alternative 2 includes approximately 22 acres as an Open Play Area within the sand blowout feature that exists near the junction of the Sand Mountain lookout Road 2690-810 and Santiam Wagon Road 2676-866. The Open Play Area is outside of both the Santiam Wagon Road SIA and the Sand Mountain SIA, and situated within MA-10b. This alternative would also establish a Kiddie Loop, youth learning trail within an 18 acre area north of Big Lake Campground and between the Big Lake Road 2690 and the Santiam Wagon Road SIA, again situated within MA-10b, but within view from the Santiam Wagon Road.

In summary, reducing the number and size of the dispersed campsites, and rehabilitating and implementing speed limits along the 6.0 miles of Wagon Road within the project begins the trend of restoring the integrity of location and setting along the Santiam Wagon Road. The speed limit would reduce the displacement of road surface materials, help prevent moguls and road widening, and serve to protect the integrity of these road segments. The speed limits would also discourage OHV use on the wagon road. However, designating the entire 6.0 miles of the wagon road to motorized mixed-use, along with the other actions that locate a staging area nearby and an open play area and Kiddie Loop youth learning areas adjacent to the Santiam Wagon Road SIA, would continue the trend toward changing the historic alignment and a diminishing one's sense of being on a historic route.

### Effects of Alternatives 3

#### Direct and Indirect Effects

**OHV, Road and Trail Development and Santiam Wagon Road:** Alternative 3 is designed to be more restrictive than Alternative 2, by limiting the use of one of the two segments of Santiam Wagon Road within the project area.

The Sand Mountain HPMP segment would remain open to motorized mixed-use, which includes ATV Classes, I, II, III. This segment includes Forest road 2690-810, from the junction with 2690-860 to the Big Lake Road, and east along 2690-811 to the Forest boundary. The Eno HPMP segment from Forest road 2676 to the junction of 2690-810 with 2690-860 would be closed to all public motor vehicles (2.2 miles), allowing only administrative use.

Approximately 3.8 miles of the Santiam Wagon Road are open to motorized mixed-use designation, and 5 clearly designated crossings over the Santiam Wagon Road would be constructed. No other crossings on the wagon road would be allowed. Establishing these north-south crossings at existing road systems and established dispersed camping spots could reduce the impacts to the Santiam Wagon Road.

Alternative 3 would establish speed limits as in Alternative 2 on Forest roads 2690-811 and 2690-810, which would be implemented through a Forest Order.

**Staging areas:** Two "Day Use" staging areas would be established for off-loading OHVs from trailers and parking. One of the areas would be located along the Big Lake Road at the junction of Forest Road 2690 and the south side of 2690-860. The other staging area would be located at the Ray

Benson Sno Park. The staging areas would have no effect on heritage resources. Natural protection barriers would define the limits of these staging areas and keep the staging areas from widening over time.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 3 would be moderately prohibitive for dispersed camping along the Santiam Wagon Road SIA. Dispersed camping along the Santiam Wagon Road would include 15 camp sites at 1/2 acre each on the 2690-810 and 2690-811 portions only, for a total of 7.7 acres of campsites along the 3.8 miles of Santiam Wagon Road open to OHV. Under this alternative the dispersed campsites are again reduced in number and size along the Santiam Wagon Road SIA in comparison with the no action alternative. A total of 14 dispersed campsites or 18.9 acres would be closed and restored to natural conditions over time.

**Open Play Area and Kiddie Loop:** Alternative 3 would not establish an Open Play Area within the sand blowout feature north of Sand Mountain SIA. Alternative 3 would establish a Kiddie Loop, youth learning trail within an 18 acre area north of Big Lake Campground and between the Big Lake Road 2690 and the Santiam Wagon Road SIA as in Alternative 2.

In summary, Alternative 3 furthers the trend of restoring the integrity of location and setting along the historic wagon road more than Alternative 2 by reducing the number and size of dispersed campsites, rehabilitating the wagon road alignment, and implementing speed limits along the open portions of the Santiam Wagon Road. Speed limits would help reduce the displacement of road surface materials, help prevent moguls and road widening, and serve to protect the integrity of these road segments. The speed limit may also discourage OHV use on the wagon road.

Closing the Eno segment of the Santiam Wagon Road to all public motorized use in this alternative would help preserve the more intact HPMP segment within the project area. This segment is more stable (i.e. less sand in its makeup) and it still retains some of the original “braided” portions along its route which contributed to its significance as an NRHP eligible site. Reducing the number of OHV crossings to 5 and moving the staging area away from the Santiam Wagon Road SIA would further the process of restoring the integrity of location and setting along the Santiam Wagon Road, and provide a greater sense of the historic character of the road route compared to Alternative 2.

## Effects of Alternatives 4

### Direct and Indirect Effects

**OHV, Road and Trail Development and Santiam Wagon Road:** Alternative 4 is the most restrictive of OHV use along the Santiam Wagon road of the action alternatives. It would designate 4.2 miles of the Santiam Wagon Road as open to Highway Legal Vehicles, which includes all of Forest road 2690-810 from the junction of 2690 to the junction of and 2690-866, and all of Forest road 2690-811 from 2690 to the Forest boundary, which includes the Sand Mountain HPMP segment.

A 0.2 mile portion of the Eno HPMP segment on the 2690-810, from the 2690-860 to the junction with 2676-866 would be open to Highway Legal Vehicles. Highway legal vehicles include passenger cars, 4-wheel drive cars and motorcycles (see Glossary). Alternative 4 would close the rest of the Eno HPMP segment to all motor vehicles along the entire 2676-866, from 2676 to the junction of 2690-810. Two clearly designated crossings would be constructed over the Santiam Wagon Road north of

the Big Lake Campground. Establishing these north-south crossings at existing road systems and at established dispersed camping spots would reduce the impacts to the Wagon Road the most of the action alternatives. This alternative would establish speed limits for all motorized vehicles on the open portions of the Santiam Wagon Road to prevent adverse effects to the road surface material and other important components of this historic property.

**Staging Areas:** Two “Day Use” staging areas would be established for off-loading OHVs from trailers and for parking. One of the areas would be located along the Big Lake Road at the junction of Forest Road 2690 and the south side of 2690-860. The other staging area would be located at the Ray Benson Sno Park. The staging areas would have no effect on heritage resources. Natural protection barriers would define the limits of these staging areas and keep the staging areas from widening over time.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 4 is also the most prohibitive for dispersed camping along the Santiam Wagon Road SIA. It would include 10 camp sites at 1/2 acre each, for approximately 5.2 acres of campsites along the 4.2 miles of Santiam Wagon Road. These campsites are on roads only open to highway legal vehicles (2690-810 and 2690-811 portions only) and do not permit access to the motorized trail system.

Both the number and acreage of the dispersed campsites in the Santiam Wagon Road SIA would be reduced from the present condition. A total of 19 existing dispersed campsites or 21.5 acres of dispersed campsites would be rehabilitated.

**Open Play Area and Kiddie Loop:** Alternative 4 would not establish an Open Play Area within the sand blowout feature near the junction of the Sand Mountain lookout Road 2690-810 and Santiam Wagon Road 2676-866. Alternative 4 includes the additional 4 acre Kiddie Loop youth learning trail adjacent to Ray Benson Snow Park. It does not establish a youth learning trail within the 18 acre area south of the Big Lake Road 2690 as proposed in Alternatives 2 and 3.

The trend of restoring the integrity of location and setting along the historic wagon road is facilitated most in Alternative 4 by reducing the number and size of dispersed campsites, rehabilitating the wagon road alignment, and implementing speed limits along the portion of Santiam Wagon Road open to highway legal vehicles. Speed limits would help reduce the displacement of road surface materials, help prevent moguls and road widening, and serve to protect the integrity of these road segments.

Closing most of the 2676-866 within the Eno segment to all but administrative use (from the 2676 to the junction with 2690-810) would help preserve the more intact segment within the project area. This segment is more stable (i.e. less sand) and still retains some of the original braided segments along its route which contributed to its significance as an NRHP eligible site. Reducing the number of crossings to two and moving the staging area away from the Santiam Wagon Road SIA would further the process of restoring the integrity of location and setting along the Santiam Wagon Road, and it would provide an even greater sense of the historic character along the route.

## Cumulative Effects

The area analyzed for cumulative effects is the Santiam Wagon Road SIA within the project area (from Forest road 2676 east to the Forest boundary at the Cascades crest). Until the Airport Fire occurred in 1967, the Santiam Wagon Road and the area designated as SIA were in relatively stable condition with little to no effect from modern-day influences. During the 1967 fire, the Big Lake airstrip directly adjacent to the Santiam Wagon Road and the wagon road itself was bladed and used during fire suppression activities. After the fire, the Forest Service opened the area to the public for firewood gathering. The subsequent vehicle use on and off the Santiam Wagon Road to suppress the fire and for cutting firewood left behind from fire suppression, had marked the beginning of major adverse effects on both the Sand Mountain and Eno segments. Firewood cutters created numerous user roads on both sides of the Santiam Wagon Road to reach firewood.

From the late 1960s until the mid 1980s, the wagon road saw very little OHV use, and a 1983 inventory of the wagon road describes the smoothness of the road bed. From the mid-1980s, the roadbed smoothness began to disappear and by the mid-1990s, large moguls from OHV use and user-created OHV tracks and road crossings began the adverse affects on the integrity on these two segments of the Santiam Wagon Road.

The No Action Alternative would result in additional cumulative effects from unregulated OHV use through the likely creation of more and larger dispersed campsites, more user-created crossings, more moguls, and widening along the Santiam Wagon Road and SIA. Normal road maintenance would continue to be uncertain. However, all action alternatives would begin to repair the effects of unregulated OHV use on the 6.0 miles of Santiam Wagon Road within the project area, and would reduce the present cumulative effects of past actions, with Alternative 4 providing the greatest removal and rehabilitation of dispersed campsites and OHV crossings.

As discussed in Chapter 2, the foreseeable future action of road maintenance on a portion of the Santiam Wagon Road is scheduled for spring 2008. The maintenance work on the portion of the road from Forest road 2690 to 2690-890, would remove the ripples and moguls and recondition the surface of the road to a more historical profile. This action would improve the historical road integrity by reversing the cumulative effects of unregulated and high speed OHV use.

## Recreation

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### Affected Environment – OHV Spectrum of Opportunity (Issue 2)

The Santiam Pass Motorized Recreation area is a popular recreation destination known for its diversity of recreation opportunities, but in particular, motorized off-road vehicle use, developed and dispersed camping, and water skiing on Big Lake. The area occupies a central location along the crest of the Cascades between the Willamette National Forest and the Deschutes National Forest. The project area is adjacent to US Highway 20 and is within two hours of the central Willamette Valley. Dispersed motorized recreation in the project area appears to be increasing each season. Statements from District fire and recreation patrol staff and campground hosts suggest that motorized use has become the dominate recreation pursuit in this area and use has increased in the past few years (Valevich, 2007).

Dispersed recreation with an emphasis on motorized use is recognized in the Willamette Forest Plan and has been allowed within the project area for over 30 years. To date, there have been no established trail opportunities for ATVs, and use takes place on roads, user created-tracks, or simply as cross-country travel.

A variety of OHVs are used in the project area, including motorcycles, quads, three wheelers, and 4x4 vehicles especially designed for off-road travel. Family groups interested in this type of recreation often use more than one type of recreational motorized vehicle during their visit. Recreation and fire patrols also suggest that ATV Class I and III use within the project area are the most popular, with only minor amounts of ATV Class II use.

ATV users routinely state they desire trails with a variety of topography, vegetation, difficulty, and scenery, and they desire quality signing and mapping. ATV riders desire trail lengths of about 6 miles per day at an easy skill level, and 20 miles per day at a more difficult level. User-created trails are less desirable than designed trails because they can be too straight and encourage speed, poorly drained, poorly located, and inconsistent in degree of difficulty resulting in a less than enjoyable experience.

User-created tracks have been noted throughout the project area for many years. A preliminary inventory of user-created tracks conducted in the project area in 2004 and 2005 identified over 10.0 miles of tracks. Most of the network of tracks is found between the Santiam Wagon Road and the Big Lake Road, north of Big Lake Campground.

Although the project area is visited by the recreating public year-round, the majority of visits to the area occur on weekends and holidays between June and November, as most of the project area is covered with snow from December through late May. The area is used extensively by snowmobiles and cross-country skiers during these winter months, with Ray Benson Sno Park receiving heavy use for day-use staging and parking.

Non-motorized summer recreation activities in the project area include, but are not limited to hiking, horseback riding, mountain biking, sightseeing, and hunting. Some of the current campsites located along the western portions of the Santiam Wagon Road next to an old airstrip were originally developed for stock use. Numerous horse endurance events were once staged out of this location. Non-motorized trail systems within the planning area are limited, with the Pacific Crest National Scenic Trail being the longest and most used, with the Patjens Lake trail also a popular trail to access the Mt. Washington Wilderness. Most non-motorized users have traditionally used the existing road system or have traveled cross-country to destinations outside the project area.

There are no improved camping areas outside the Big Lake Campground Complex, and no fees are charged for any of the dispersed campsites found within the project area. Dispersed campsites areas have been maintained on a very limited basis during the past several years due to lack of personnel and funding.

Ray Benson Sno Park is a winter day use parking and overnight camping facility for snowmobiling, Nordic skiing, snowshoe, and some snow play activities. Snowmobiling is considered to be the dominate winter recreation activity in the project area. Ray Benson Sno Park is designed to accommodate approximately 240 vehicles, with a considerable number of visitors needing room for

vehicles pulling trailers for hauling snowmobiles. On any weekend day during periods of good snow conditions, as many as 300 to 400 snowmobiles may use the trail system in and around the Sno Park.

Near to Ray Benson are 13 recreation residences, or homes owned by private individuals with a special use permit to occupy residences on National Forest System land. These recreation residences are located along the Big Lake Road, adjacent to Hoodoo Ski area to the north, and approximately ¼ mile west of the Ray Benson Sno Park.

## Environmental Consequences

### Direct and Indirect Effects of Alternative 1, No Action

Alternative 1 is a continuation of the current management situation. With the no action alternative, there would be no effort to provide for comprehensive management of OHV use in the project area. Alternative 1 would provide the most opportunity for OHV freedom, and ATVs would continue to be allowed on all system roads, user-created tracks, and would be able to travel cross-country. No user-created tracks would be closed to OHV use and rehabilitated.

Dispersed camping opportunities would continue to be managed as they currently are. The expansion of user-created tracks and dispersed camping sites is likely to continue. Associated impacts would continue to move into other areas of undisturbed vegetation. Designated camping areas, sanitary facilities, and day-use staging and parking areas suitable for loading and unloading ATVs would not be added.

Under Alternative 1, there would be no trail system improvements to benefit ATV users. Because no trails exist, user-created tracks would remain in poor design, with poor trail location, and with dead-ends. This alternative would do nothing to promote responsible, “light on the land” riding ethics, ATV rider etiquette, or encourage safe behaviors. Enforcement would continue to be difficult for Forest Officers, and County or State patrols due to the lack of specific rules for motorized recreational vehicle use. However, OHV enthusiasts who prefer minimal management in the area would not see any changes to current uses of the project area with this alternative.

### Effects of Alternative 2

**OHV, Road and Trail Development and Santiam Wagon Road:** Alternative 2 maximizes utilization of the current Forest road system for motorized recreation by establishing approximately 37.3 miles of the existing 68.2 mile road system for motorized mixed-use. Motorized mixed-use includes ATV Class I and III along with Class II vehicles and highway legal vehicles.

This alternative includes Forest Plan Amendment #49, which prohibits off-road or cross-country travel, which greatly reduces the opportunities and freedom to travel over the area that ATV riders are accustomed to. Restrictions on OHVs to remain on designated roads, trails, or specific area may diminish the freedom to ride that some ATV users seek in this area.

All of the designated motorized road system that is open for motorized mixed use would utilize existing Forest roads. However, the majority of roads within the project area are not frequently maintained, and it would provide a challenge to low clearance vehicles not equipped with four-wheel drive. Utilizing the maximum existing road system available over a larger portion of the project area

would allow for more user dispersal and less potential for concentrated use around congested areas. With the addition of about 7.6 miles of road designated for ATV Class I and III, the total amount of road system within the project area that is open to ATV's would be about 44.9 miles. Motorized trail construction includes approximately 7.9 miles of new trail and approximately 4.4 miles of user-created tracks, built for ATV Class I and III only.

Alternative 2 designates more miles as motorized mixed use than the other action alternatives, allowing less separation of the different class of ATVs. However, those ATV users seeking a single track experience would find less opportunity under this alternative.

Alternative 2 also allows motorized mixed use access to the parking area at the saddle of Sand Mountain, which is currently a popular ride for ATV users to enjoy vistas. All of the Santiam Wagon Road, from Forest Road 2676 east to forest boundary at the Cascade crest would be open to motorized mixed use.

**Staging areas:** Development of two centrally located day-use staging and parking areas in Alternative 2 would provide local access to most of the designated motorized system along with multiple trail access points within the Big Lake Campground. The staging areas would enhance visits to the project area by informing the OHV user of the trail system, rules and regulations, and of the natural and historic features to be enjoyed. The staging areas would also have toilets during the summer.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 2 provides the best access to the core of the motorized trail system from dispersed campsites. All 34 designated dispersed campsites are connected to the trail system along the main ATV travel corridors or at major trail crossings within the regulated camping zone.

**Open Play Area:** Alternative 2 would designate approximately 22 acres as an open play area along the north side of Sand Mountain, which would allow the ATV user the freedom to travel cross-country within the small designated area, and not be confined to either a designated Forest road or ATV trail. The open play area would provide a location within the planning area where motorized users could experience a challenging, cross-country riding experience on sand.

**Kiddie Loop:** The Kiddie Loop youth learning trail area would provide an opportunity for youth to develop positive motorized riding skills and location for teaching rider etiquette and trail skills. Development and construction of a beginner trail riding area would help reduce dust and noise in this area due to the smaller size vehicles used by youth and reduction in speed associated with slower trail usage. Adult supervision would be a key component to help foster and develop this skill level.

### **Effects of Alternative 3**

**OHV, Road and Trail Development and Santiam Wagon Road:** Alternative 3 continues to maximize the existing road system with 30.6 miles of road open to motorized mixed use, but increases the miles of road designated for ATV Class I & III, to 12.1 miles. Motorized mixed-use includes ATV Class II vehicles along with Class I and III. Most of the road system open to motorized mixed use would still challenge low clearance vehicles but would be less demanding for high clearance, four wheel drive vehicles. Motorized trail construction includes approximately 9.8 miles of new trail and

approximately 5.2 miles of user-created tracks, which provides the most mileage of ATV Class I & III routes of all the action alternatives.

This alternative includes Forest Plan Amendment #49, which prohibits off-road or cross-country travel and reduces the freedom to travel over the area that ATV riders are accustomed to. The restriction that OHVs must stay on designated roads, trails, or specific area may diminish the freedom to ride that some ATV users seek in this area.

Closure of the Santiam Wagon Road, west from 2690-860 to Road 2676 would eliminate all highway legal and ATV Class II access from within the central core of the trail system to the far western portion of the project area. Highway legal and ATV Class II access to this area would be permitted via Road 2676 at the Little Nash Snow Park into the western portion of the project area. All motorized access to Sand Mountain would be prohibited, with the only exception given for administrative use.

**Staging areas:** Alternative 3 includes the development of one centrally located day-use staging area on the Big Lake Road, as in Alternative 2. This staging area provides local access to most of the motorized trail system. A second day-use staging area at Ray Benson Sno Park would provide parking and access to the northern portions of the trail system. The staging areas would enhance visits to the project area by informing the OHV user of the trail system, rules and regulations, and of the natural and historic features to be enjoyed. The staging areas would also have toilets during the summer.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 3 would include 20 designated campsites, or 14 fewer than Alternative 2. All 20 of the campsites would allow ATV user to be able to ride directly from their camp locations onto the trail system.

**Open Play Area:** Alternative 3 does not include an open play area anywhere in the project area.

**Kiddie Loop:** Alternative 3 provides the same youth learner opportunity as Alternative 2, but adds a second smaller 4 acre youth learning trail area adjacent to Ray Benson Snow Park staging area, which would help disperse this type of training opportunity within the project area.

## Effects of Alternative 4

**OHV, Road and Trail Development and Santiam Wagon Road:** Alternative 4 is the most limiting alternative for ATV use of all the action alternatives with the closure of the Santiam Wagon Road to all but highway legal vehicles, and the closure to all motorized vehicles west of the Sand Mountain junction, or all of Forest road 2676-866. This alternative utilizes 17.8 miles of existing forest road open to mixed motorized use, and it identifies 14.5 miles of road open only to ATV Class I & III vehicles. This alternative includes Forest Plan Amendment #49, which prohibits off-road or cross-country travel and reduces the freedom to travel over the area that ATV riders are accustomed to. The restriction that OHVs must stay on designated roads, trails, or specific area may diminish the freedom to ride that some ATV users seek in this area.

Motorized trail construction includes approximately 6.6 miles of new trail and approximately 2.7 miles of user-created tracks, built for ATV Class I and III only. Even with the reduction of current roads available for motorized use, this alternative still provides 23.8 miles of designated road and trail open only to ATV Class I and III vehicles, which is only 3.3 miles less than with Alternative 3.



Within the planning area, all of the road system south of the Santiam Wagon Road and west of Big Lake Campground to the wilderness boundary would be closed to all motorized travel. ATV Class I and III vehicles would be able to cross the Santiam Wagon Road at only two locations to access the central trail system from Big Lake Campground. Motorized road access to the northwest portion of the planning area for other than ATV Class I and III vehicles, would only be accessed by Little Nash Snow Park at the junction of Forest road 2676 and US Highway 20.

**Staging areas:** Alternative 4 includes the development of the centrally located day-use staging and parking area on the Big Lake Road, which would provide local access to the bulk of the designated motorized system. A second day-use staging area at Ray Benson Sno Park would provide access trail systems from the north. The staging areas would enhance visits to the project area by informing the OHV user of the trail system, rules and regulations, and of the natural and historic features to be enjoyed. The staging areas would also have toilets during the summer. Alternative 4 also includes an overnight fee camping area at Ray Benson which improves camping opportunities for larger recreational vehicle camping.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 4 provides fewer designated dispersed campsites than Alternative 2, but distributes them over a wider area within the regulated camping zone. However, of the 15 dispersed campsites, only 4 would have direct access to the motorized trail system, and 11 would require ATVs be transported by trailer from the camp locations to a staging area or trail access points to be unloaded for use.

**Open Play Area:** Alternative 4 does not include an open play area anywhere in the project area.

**Kiddie Loop:** This alternative establishes one youth learner trail area next to Ray Benson Sno Park. The constructed youth learning trail would be much smaller than the larger kiddie loop in Alternatives 2 and 3, and would limit the number of users at one time. Competition for access may be much higher with reduced capacity.

### **Cumulative Effects**

The area considered for analysis of cumulative effects on OHV spectrum of opportunity is the project area. Prior to this initiative, no attempt had been made to design and build a motorized system of trails within the project area to enhance motorized recreation, and to reduce any negative effects of unregulated OHV use on the quality of OHV experience. Without the development of a motorized trail system, OHV use has freely expanded the network of user-created tracks, and it includes most Forest roads and open areas.

The cumulative effect of implementing any of the action alternatives would be to reduce the range of use and would restrain the freedom that presently exists to travel cross-country with Forest Plan Amendment #49. All action alternatives would designate a motorized trail system and would restrict OHV use. Even though the proposed ATV trail development for all action alternatives would reduce OHV opportunities from the present condition, the proposal would construct trails on existing user-created tracks to incorporate them as new constructed routes, which would add a motorized trail system that offers a diversity of challenge for all skill levels while providing for safety. OHV opportunities for some Class I and III ATVs riders would be enhanced.

Designated dispersed campsites within the regulated camping zone would be reduced in size and number from current conditions in all action alternatives. Opportunities would be reduced for campers recreating with OHVs as access to the motorized trail system from the existing dispersed campsites is reduced especially along the Santiam Wagon Road. Alternative 2 provides the greatest access to the motorized trail system with all 34 designated campsites having access, and Alternative 4 provides the least opportunity with only 4 of 11 designated campsites having access along the motorized trail system. The improvements in day-use staging and parking facilities proposed in all action alternatives would enhance OHV user education over the current situation. Informational kiosks would provide OHV use restrictions and laws, promote protection of natural and historical resources in the area and make maps available.

Though this initiative would inevitably be seen as reducing the freedoms and riding opportunities by some ATV riders, scoping comments indicate that many of the proposed activities would also be considered as improvements to enhancing the overall OHV experience from the currently unmanaged situation. There are no foreseeable future actions known that would add to the effects of this action to improve the spectrum of opportunity for OHV use in the project area.

### **Affected Environment – Recreation User Conflicts (Issue 3)**

With an apparent increase in popularity nation-wide, ATV use within the project area has also been on the increase over the past decade. Motorized recreation vehicle users have utilized much of the project area and created an open network of roads and user-created tracks which connect dead end roads to other roads and various open play areas. At the same time, the non-motorized recreating public has expressed concerns that they are being displaced by unrestricted expansion of motorized use.

Dispersed camping within the project has grown in numbers of sites and existing sites have grown in size over the last decade, both along the Santiam Wagon Road, adjacent to the Big Lake Campground Complex, and along the Big Lake Road. On summer weekends these three areas often have concentrated use by mostly campers with ATVs.

Non-motorized recreation opportunities in the area include mountain biking, horseback riding, and hiking the Patjens Lake Trail and the Pacific Crest National Scenic Trail. The PCT experiences trespass by motorized vehicles due to current unrestricted travel, user-created access points, lack of signs, and numerous existing road crossings.

Ray Benson Sno Park is most often closed in the summer. Its facilities are intended to serve as a winter day-use parking facility with overnight camping for snowmobiling, Nordic skiing, snowshoeing, and some snow play activities.

The 13 recreation residence owners have raised a concern that any plan to designate trails near their residences or use the nearby Ray Benson facility for staging and parking during the summer is of concern. Such actions could result in increased noise disturbance from ATVs in the area.

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## **Environmental Consequences**

### **Effects of Alternative 1, No Action**

With Alternative 1, the existing management situation would continue. Without a designated motorized travel system, all sections of the planning area would be available for mixed recreation use. The lack of a cohesive motorized management plan within the project area would continue to foster expectations for an un-regulated recreation experience, which is a primary reason for user-conflicts.

No restrictions would be placed on dispersed camping within the project area for Alternative 1. The recreating public displaced from other areas with more management controls would be attracted to this area. With increased use, existing dispersed campsites would be able to expand along the Santiam Wagon Road, adjacent to Big Lake and Big Lake West campgrounds, and along the Big Lake Road. Management of dispersed camping areas and day-use parking would not change from the current condition. Traditional campers who place a high value on freedom of use and minimal restrictions may prefer this alternative. Motorized trespass along the Pacific Crest National Scenic Trail is likely to continue unchecked due to the numerous road crossings and user-created access points to the PCT.

Non-motorized recreation opportunities for mountain biking, horseback riding, and hiking the PCT would continue to be affected by effects of OHV activity, mainly from noise and dust in the summer. In the long-term, some of the recreating public that traditionally camp and use the area may be displaced to other areas. The recreation experience for the public could be diminished by unmanaged dispersed camping with the expanding size of camping areas.

### **Effects Common to All Action Alternatives**

Recreation opportunities at individual dispersed campsites may become more restrictive due to fewer sites and smaller size areas, depending on the action alternative. Actions that benefit non-motorized users include mixed-use design to provide multi-family camping, establishment of vegetation screening for noise muffling and privacy between sites, and placement of hardened (metal) campfire rings to reduce the potential for escaped fires.

Actions that could restrict freedom for non-motorized users and which result in a negative recreation experience include the requirement for dispersed camping only in designated sites along the Santiam Wagon Road and Big Lake Road, and closing and re-vegetating formerly preferred areas. Some of the recreating public who place a very high value on freedom of use could be displaced to other dispersed camping areas with less management controls, either within the project area or outside the regulated camping zone. Dispersed camping would be permitted outside of the regulated camping zone, but vehicles would be required to stay within 100 feet of a designated mixed-use road.

Actions that may be neutral to the traditional non-motorized user could include defining camp area perimeters and providing educational or informational signing. Enforcing appropriate use of OHVs and dispersed camping in the regulated camping zone would be perceived positively by those campers who have been previously disturbed by large camps with loud behavior, and negatively by those who prefer the freedom to camp in large groups.

Non-motorized user to the area would have few opportunities for recreational activities outside of the existing non-motorized trail system. Those users wanting to travel cross-country within the project area would continue to encounter motorized activity at trail or road crossings.

## Effects of Alternative 2

**OHV, Road and Trail Development and Santiam Wagon Road:** This alternative provides the most miles of routes for motorized recreation use within the project area. Those seeking a non-motorized recreation experience would need to evaluate the motorized trail system and to select isolated blocks of area not influenced by motorized use. Alternative 2 would reduce the total number of motorized crossing along the Pacific Crest Trail from 9 to 4 to reduce potential for conflict. One crossing would be located along the Santiam Wagon Road, 2690-811, one along Forest road 2690-940 and one at the junction of 2690-920 and trail 3558. Informational signing and barrier placement would also help prevent unintentional motorized access along the Pacific Crest Trail corridor, which would reduce potential for non-motorized and motorized user conflicts.

**Staging areas:** Construction of the two day-use staging areas at the proposed locations would remove two existing dispersed campsites. Noise and dust associated with concentrated motorized use around staging areas and in close proximity to nearby campsites could influence non-motorized campers to select overnight sites at other areas.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 2 designates 34 dispersed campsites in the regulated camping zone, and all campsites would have access to the motorized trail system. The small reduction in dispersed camping opportunities from the current condition in Alternative 2 would slightly increase demand for the limited number of sites during weekends of high visitor numbers, resulting in a slightly increased potential for recreation user conflicts associated with dispersed camping.

Most of the reduction would occur around or adjacent to Big Lake Campground, along the south side of the Santiam Wagon Road, the area north of Big Lake, and along the north side of the Santiam Wagon Road between Big Lake Road and the Pacific Crest Trailhead. Since all dispersed campsites would be favored by OHV campers, the campers that wish to be away from dust and noise associated with motorized recreation would have little opportunity around more popular sites, and they would need to travel to more remote portions within the project area or seek that opportunity outside the project area.

**Open Play Area:** Designation of the 22-acre open play area would allow more freedom of choice for ATV use. The area requires the OHV user to operate within area that has a marked boundary for open, unrestrained motorized recreation. This open play area may concentrate ATVs in close proximity to the Sand Mountain SIA and Sand Mountain lookout. Noise and dust from this play activity may increase the potential for conflict with non-motorized users visiting the lookout to enjoy vistas.

**Kiddie Loop:** Developing the 18 acre youth learner trail area north of Big Lake Campground Complex would provide an area away from the main travel system and allow beginning OHV users a place to learn in a safe environment away from and not in competition with more advanced users on

the trail system. This area would also serve to reduce the dust and noise affecting the campground area by restricting speeds and riding behavior on the youth learning trail occurring in that area north of the campground, and reduce potential for conflicts between non-motorized and motorized users.

### **Effects of Alternative 3**

**OHV, Road and Trail Development and Santiam Wagon Road:** User conflicts associated with mixing motorized and non-motorized uses would generally be the same as in Alternative 2. Non-motorized users would need to be selective when choosing areas within the planning area for camping and recreation to avoid noise and dust associated with motorized recreation.

This Alternative would reduce the total number of motorized crossings along the Pacific Crest Trail from 9 to 3 also reducing the opportunities for motorized intrusions and potential conflicts between trail users and ATV riders. Informational signing and barrier placement would help prevent unintentional motorized access along the Pacific Crest Trail corridor and reduces the potential for conflicts between PCT hikers and ATV users.

**Staging areas:** Alternative 3 establishes two day-use staging areas for off-loading OHVs from trailers and parking at convenient locations. The staging areas would include user education and information kiosks, and toilet facilities. One staging area is located along the Big Lake Road at the junction of Forest Road 2690 and south side of 2690-860, and the other utilizes a portion of Ray Benson Sno Park. The two staging areas would help to reduce congestion associated with motorized use around Big Lake Campground. The development of both staging areas away from concentrated use areas at the developed campground would reduce the effects of noise at those areas more than Alternative 2.

The existing stands of trees and brush between the Ray Benson Sno Park and the recreational residences would be retained to help reduce the effects of noise on the recreation residence owners.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 3 would further reduce the total number of designated campsites to 20, and all campsites would have access to the motorized trail system. This alternative would result in most demand for the reduced number of campsites in the zone and result in a greater increase in potential for recreation user conflict between campers than Alternative 2.

Areas outside the regulated camping zone would start to show signs of increased use as traditional campers seeking a non-motorized experience are displaced to other areas. As in Alternative 2, campers that wish to camp away from dust and noise associated with motorized recreation would have little opportunity around the more popular sites in the regulated camping zone. They would need to travel to more remote dispersed campsites outside the regulated camping zone or seek that opportunity outside the project area.

**Open Play Area:** Alternative 3 does not include an open play area anywhere in the project area.

**Kiddie Loop:** Alternative 3 includes the 18 acre youth learner trail area north of Big Lake Campground Complex with the same effects as in Alternative 2. There would also be a second youth learner area at Ray Benson Sno Park. This constructed youth area would be much smaller and would limit the number of users at one time more than at the youth learning trail area near Big Lake Campground. The 4-acre loop at Ray Benson would be approximately ¼ mile from the Hoodoo

Recreation Residences, but there would be a low potential for conflict with those residences due to the slow ATV speeds and adult supervision likely to be present.

#### **Effects of Alternative 4**

**OHV, Road and Trail Development and Santiam Wagon Road:** This alternative would close all Forest roads to OHV travel south of the Santiam Wagon Road, on 2690-810 between the west end of Big Lake Campground and Sand Mountain. Closing the area to ATVs would lower the potential for conflict with non-motorized users the most. Non-motorized users would be able to travel cross country and along the existing road system in this area without encountering motorized activity. As a result, the area may be more appealing to non-motorized recreation users. Implementation of this alternative may reduce the potential for unintentional trespass into the Mount Washington Wilderness by ATV riders. Alternative 4 also reduces crossings over the PCT from 9 to 2, with one located at trail #3558 (Class I and III) and the other on the Santiam Wagon Road 2690-811 (highway legal vehicles only), which lowers the potential for conflict along the PCT the most of the action alternatives.

**Staging areas:** Alternative 4 establishes two day-use staging areas at convenient locations for off-loading OHVs from trailers and parking the same as in Alternative 3. The staging areas would include user education and information kiosks, and toilet facilities. One staging area would be located along the Big Lake Road at the junction of Forest Road 2690 and south side of 2690-860, and the other utilizes a portion of Ray Benson Sno Park.

Alternative 4 also includes a section of Ray Benson Sno Park as a designated overnight fee camping area, which may help reduce some of the competition for campsites in other areas. Since Ray Benson Sno Park is a winter, day-use parking and overnight camping facility, its capacity is currently suitable for approximately 240 vehicles. In the winter, roughly 75% of the activity is for snowmobiling. During good snow conditions on a winter weekend day, as many as 300 to 400 snowmobiles will use the trail system in and around the Sno Park.

Campers seeking more support facilities for motorized overnight camping would prefer Ray Benson over the designated dispersed sites since there are currently restrooms and a group shelter, and access to the central trail system could be made by the trails designated through the Hoodoo Ski Area. Campers at Ray Benson Sno Park may provide value-added benefits to Hoodoo Ski Area, a Special Use Permit holder, as some overnight fee campers could provide a potential customers base for the general store at the lodge.

The existing stands of trees and brush between Ray Benson Sno Park and the recreational residences would also help reduce the effects of noise.

**Dispersed Camping in the Regulated Camping Zone:** Alternative 4 is the most restrictive for overnight camping within the Regulated Camping Zone by reducing the designated sites to 15. Only 4 of the remaining dispersed campsites would have access to the motorized trail system. In turn, the designated dispersed campsites along the Santiam Wagon Road would become more desirable for non-motorized users because of the limited motorized trail access. Alternative 4 reduces noise and dust around Big Lake Campground by moving the motorized activity north and away from the campground.

**Open Play Area:** Alternative 4 does not include an open play area.

**Kiddie Loop:** This alternative establishes one Kiddie Loop youth learner trail area next to Ray Benson Sno Park. The area for this constructed learning trail would be much smaller than the area in Alternatives 2 and 3 near Big Lake Campground. Competition for access and use of the learner trail would be much higher with reduced capacity.

### **Cumulative Effects**

The analysis area for cumulative effects on recreation user conflicts is the project area. There is potential to affect other nearby areas indirectly through displacement of either non-motorized or motorized users due to user conflicts, but depending on the action alternative, it is not predictable or quantifiable at this time. Additional cumulative effects from OHV or non-motorized user displacement on Deschutes National Forest roads and trails east of the project area is likely in the short term. However, the Deschutes is currently involved in a road management planning effort, but the Forest does not have a proposed action identified.

Recreational OHV use in the Santiam Pass area has grown dramatically in the past two decades in the absence of actions to manage it. As a result, OHVs utilize almost all open roads and more than 10 miles of user-created tracks that currently exist on the landscape. With the unregulated use of OHVs and dispersed camping, the project area has become dominated by motorized recreation, with much of the dispersed camping by OHV users concentrated near Big Lake Road and along the Santiam Wagon Road. Non-motorized recreation uses, including mountain biking, horseback riding, and hiking on foot are at times adversely affected by noise and dust from ATVs, and have generally chosen to go to other areas for recreation. The Pacific Crest Trail continues to be affected by motorized vehicle trespass in unmarked areas.

All action alternatives would block and rehabilitate user-created tracks not incorporated into the motorized trail system to reduce OHV user impacts from the current management situation, varying by action alternative, with alternative 2 having the least potential conflict reduction and Alternative 4 having the most reduction potential.

Action alternatives also have a cumulative effect of reducing the number of designated campsites within the regulated camping zone that have direct access to the designated trail system or are on roads allowing motorized mixed-use. Alternative 2 would have the greatest number of designated campsites available with direct OHV trail system access with 34. Alternative 4 would have the fewest designated campsites with direct OHV trail system access at 4 out of a total of 15, which may lower potential for user conflicts around the 11 campsites without access.

Encroachment on the Pacific Crest Trail by OHVs would be reduced by closing access roads and user-created tracks that result in OHV encounters for PCT hikers. Alternative 4 would have the greatest positive cumulative effect on reducing potential conflicts with only two motorized crossings in the project area.

There are no reasonably foreseeable future actions that would add to the effects of this action to reduce recreation user conflicts within the project area.

## Botany

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### Affected Environment

**Sensitive Botanical Species** -- Surveys of the proposed project area for sensitive botanical species were conducted during August of 2005 and 2006. Survey results are found in the Appendix C – Botany Biological Evaluation, Table 1. Three sensitive plants have potential to occur in the project area; *Gentiana newberryi*, and *Agoseris elata* are species of mesic meadow communities. *Botrychium pumicola* is a species of lodgepole pine forest with pumice substrate. No sensitive botanical species were located during the surveys.

Many of the current user-created tracks have little to no need for vegetation removal. These user-created tracks are through lodgepole pine forest, with well-drained volcanic soils. Productivity on these sites is low; trees are scattered and the understory is sparsely vegetated with shrubs, small forbs, and grasses. The plant communities are often limited and fragile in structural composition because of the dry soils which are easily displaced.

Most sensitive fungi from the Regional Foresters sensitive species list are mycorrhizal, living in symbiosis with the roots of trees. While complexities such as mycorrhizal relationships are somewhat understood by researchers and resource managers; difficulty lies with consistently locating individual fungi over a period. With the exception of *Bridgeoporus nobilissimus*, pre-disturbance surveys for all other listed fungi is impractical at this time. *Bridgeoporus* is a large conk found on older noble fir trees. There are no noble fir trees in the project area, therefore no habitat for *Bridgeoporus* would be disturbed.

**Survey and Manage Botanical Species** – Survey and manage species are genuinely rare or because of lack of information about them, the agencies did not know if they would be adequately protected by other elements of the Northwest Forest Plan. In August 2006, surveys were conducted for survey and manage species and no species were located. The list of species that have potential habitat within the project area is in the Botanical Resource Report located in Appendix C.

On July 24, 2007, the Under Secretary of the Department of Agriculture signed a new Survey and Manage Record of Decision<sup>6</sup> that removed the survey and manage requirements from all of the National Forests' land and resource management plans (LRMPs) within the range of the northern spotted owl. However, since the court in *Northwest Ecosystem Alliance et al v. Mark Rey et al, Civ. No. 04-844, Western District of Washington* has not yet granted the government's motion to lift the modified October 11, 2006 injunction, this project is designed to be consistent with the 2001 Survey and Manage ROD as modified by subsequent annual species reviews as allowed by the modified October 11, 2006 injunction.

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<sup>6</sup>

Complete Title: Record of Decision To Remove the Survey and Manage Mitigation Measure Standards and Guidelines from Forest Service Land and Resource Management Plans Within the Range of the Northern Spotted Owl



**Special Habitats** – Special habitats are non-forested habitats that are limited in size and distribution across the landscape. Small, scattered habitats may play important roles not only for full time residents of the sites, but also for those who use them seasonally, or for only a portion of their life cycles. Numerous factors contribute to the creation or maintenance of special habitats. Among such factors, topography and hydrology often determine the microclimatic conditions at these sites. However, user-created tracks indicate potential to expand further into the meadow habitat, resulting in the need to designate trails and prohibit cross-country travel, which could minimize disturbance to plant communities and control trail erosion.

Dry bunchgrass meadows are present in the project area, and were located in three of the survey routes south of Forest road 2690-810.

**Noxious Weeds** – Several populations of St. John’s Wort (*Hypericum perforatum*), Scotch Broom (*Cystisus scoparius*), tansy ragwort (*Senecio vulgaris*), Bull thistle (*Cirsium vulgare*) are located along roads within and adjacent to the project area. From a resource viewpoint, these weeds are considered “established invaders” because they are commonly found throughout the project area, on adjacent properties, and throughout the Willamette National Forest. Because of this, they are lower priority weeds managed. Spotted knapweed (*Centaurea maculosa*) is a new invader species in the project area, and has high potential for further spread with the introduction of OHV vectors.

## Environmental Consequences

### Effects Specific to All Action Alternatives – Sensitive Botanical Species

Surveys of the proposed project area for sensitive botanical species were conducted during August of 2005 and 2006. Survey results are found in the Botanical BE, Appendix C. Three sensitive plants have potential to occur in the project area; *Gentiana newberryi*, and *Agoseris elata* are species associated with mesic meadow communities. *Botrychium pumicola* is a grapefern species suspected to occur on the Willamette National Forest. It is found in lodgepole pine forest on pumice substrates at high elevations above 7200 feet. No sensitive botanical species were observed during these surveys.

This project involves habitat disturbance with trail construction. Without knowing for certain the presence or absence of sensitive fungi deemed impractical for pre-disturbance surveys, it is assumed that there would be very localized direct impacts to the mycelial network by selecting any of the alternatives. The soils in the project area are volcanic, well-drained, and nutrient-poor. The risk of negative impacts to listed fungi is low due to the lack of nutrient-rich organic material available for decomposition. Therefore, the likelihood of offering suitable habitat for other listed fungi is low.

The indirect impacts to fungi would be evident by increased soil compaction, which reduces pore space for root penetration and production of feeder rootlets where mycorrhizae form. The volcanic soils in the project area are readily displaced, thus not subject to the degree of compaction of other soil types found in the Western Cascades. Therefore, the risk of indirect soil compaction is low in the project area and would not lead to a trend toward federal listing of species.

## **Cumulative Effects – Sensitive Botanical Species**

The cumulative effects analysis area for the sensitive botanical species is the entire project area. Past management activities in the last 50 years include road construction, road maintenance, fire suppression, salvage logging, construction of Hoodoo Ski Area, and other developed recreation areas. Included in these activities is the Fall 2007 Santiam Wagon Road maintenance work, involving heavy machinery. Because the equipment to implement this maintenance would need to meet timber sale contract provisions for cleanliness, there are no expected cumulative effects on sensitive plants from the road project. Implementing any of the action alternatives would have no additional cumulative effect on sensitive botanical species because no sensitive plant species were located in the project area during surveys.

## **Effects of All Alternatives – Survey and Manage Species**

### **Direct, Indirect, and Cumulative Effects**

Botanical Survey and Manage species are not present in the project area, and therefore, there would be no effect on any Survey and Manage botanical species from the implementation of any project alternative, including Alternative 1, No Action, and there would also have no additional cumulative effect on Survey and Manage Species.

## **Effects Specific to Alternative 1 – Special Habitats**

### **Direct and Indirect Effects**

Selecting the No Action alternative would continue the current level of soil displacement created from OHV use and it would have the highest risk of adverse effects to special habitats. The no-action alternative continues to permit OHVs to operate cross-country in the project area and does not designate OHV trails. OHVs would still be free to travel cross-country in one area of known special habitats on approximately 40 acres, which south of the Santiam Wagon Road and east of Sand Mountain SIA. This negatively affects the special habitats that exist in the area because user-created tracks are already present and are likely to expand over time.

## **Effects Common to All Action Alternatives – Special Habitats**

### **Direct and Indirect Effects**

The disturbance associated with the construction of trails may have the indirect effect of providing suitable ground conditions for noxious weed establishment. Alternatives 2 and 3 propose disturbance in the bunchgrass meadows with trail construction. All action alternatives would restrict OHVs to designated Forest road and trails by Non-significant Amendment # 49, which would prohibit cross-country travel in MA-10b within the project area. Even though the designated Class I & III trails are limited to 50" in width, this analysis will consider that trails actually have a 75 ft. wide corridor that may be susceptible to infestation of noxious weeds transported by unwashed ATVs.

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## **Effects Specific to Alternative 2 – Special Habitats**

### **Direct and Indirect Effects**

Implementation of this Alternative would have a direct effect on the dry bunchgrass meadows south of the Santiam Wagon Road and east of Sand Mountain SIA, by constructing approximately 1.5 miles of OHV trails through the meadows that would be open to motorized use. Currently, user-created tracks are found at the end of roads 881 and 883, which affects the meadows most because they provide access. Implementing this alternative has the highest risk of negative impacts to special habitats of all the action alternatives because of the disturbance associated with 1.5 miles of trail construction

This alternative also has the highest potential to vector noxious weeds into the bunchgrass meadows because it proposes the most trail construction of the action alternatives. Even though OHV riders would be restricted to designated Forest roads and trails, they may not ride the system with weed-free OHVs. Minimally, there is still the potential for 8.8 acres of new infestation along the 75 ft. corridor of susceptibility along Class I & III trails.

## **Effects of Alternative 3 – Special Habitats**

### **Direct and Indirect Effects**

Implementation of this alternative would have a direct effect on the dry bunchgrass meadows by constructing approximately 0.5 mile of OHV trails open to motorized use through it. Implementing this alternative has a moderate risk of negative impacts to special habitats compared to the other Alternatives.

This alternative has the moderate potential to vector noxious weeds into the bunchgrass meadows because it proposes construction in the meadow complex. Because of the vector potential of ATVs as previously mentioned, there is still the potential for 3.7 acres of new infestation along the 75 ft. corridor of susceptibility along Class I & III trails.

## **Effects of Alternative 4 – Special Habitats**

### **Direct and Indirect Effects**

Implementing this alternative has the least risk of negative impacts to special habitats compared to the other Alternatives because no OHV use would be allowed south of the Santiam Wagon Road. This alternative has the lowest potential to vector noxious weeds into the bunchgrass meadows because it does not propose trail construction in the meadow complex.

### **Cumulative Effects on Special Habitats**

The cumulative effects analysis area for special habitats is the meadow complexes found south of the Santiam Wagon Road. Past management activities in the last 50 years include road construction, road maintenance, salvage logging, fire suppression, construction of Hoodoo Ski Area, and other developed recreation areas. Forest roads are presently adjacent to bunchgrass meadows with user-created tracks continuing on beyond them. With Alternative 1, no action, continuing to allow cross-country travel could potentially expand the user-created tracks entirely throughout the meadows and add to the existing adverse impacts on habitat for native plants with spread of competing noxious weeds.

Although designating Class I & III trails through special habitats in action alternatives 2 and 3 would have short-term impacts, there would be a net improvement of protection of special habitats gained through Non-significant amendment #49 that would restrict OHV travel to designated Forest roads and trails. Alternative 4 would not construct trails and would result in no additional cumulative effects on special habitats. In addition, there are no foreseeable future actions that would contribute additional cumulative effects to known special habitats within the project area.

### **Effects Specific to Alternative 1, No Action – Noxious Weeds**

Selecting the No Action alternative would continue the current level of soil displacement created from OHV use and it would have the highest risk of adverse effect of spreading noxious weeds in the project area. This alternative does not designate camping in the regulated camping zone and permits cross country OHV use. The No Action alternative provides for no rehabilitation, reconstruction, or closure of any roads or user-created tracks.

OHV use would continue un-regulated, likely resulting in more user-created tracks. This negatively affects the native plants because of the high risk of spreading noxious weeds in undisturbed areas throughout the 13,850-acre project area.

The No Action alternative would not provide an opportunity to contain or control invasive plant populations, or reduce the current rate of spread of these species within the project area. This alternative does not reduce the available propagative materials, does nothing to manage vehicle weed dispersal along roadways and user-created trails, and would not further educate the public about invasive species prevention.

### **Effects Specific to Alternative 2 – Noxious Weeds**

Compared to the three action alternatives, Alternative 2 poses a moderate risk to the spread and establishment of noxious weeds. It proposes 12.3 miles of trail open to Class I and III OHV. Assuming no new user created tracks, there would be the potential for approximately 89.8 acres of potential new infestation. This alternative proposes to rehabilitate 5.6 miles of user created tracks, or 40.9 acres closed to OHV use.

### **Effects of Alternative 3 – Noxious Weeds**

Of the three action alternatives, Alternative 3 poses the greatest risk to the spread and establishment of noxious weeds. It proposes 15 miles of trail open to Class I and III OHV, and it proposes to rehabilitate approximately 35 acres of user created tracks, thus providing the potential or approximately 110 acres of new infestation.

### **Effects of Alternative 4 – Noxious Weeds**

Implementing this alternative would have the lowest risk of spreading noxious weeds compared to the other action alternatives. It proposes 9.3 miles of trail open to Class I and III OHV and would equal approximately 67.9 acres of potential new infestation. This alternative proposes to rehabilitate approximately 53.3 acres of user created tracks.

## Cumulative Effects

The cumulative effects analysis area for noxious weeds is the entire project area, associated and adjacent roads. Past management activities in the last 50 years include road construction, road maintenance, salvage logging and winter recreation. Included in these activities is the Santiam Wagon Road maintenance project, involving heavy machinery and scheduled for fall 2007. Because the equipment to implement this maintenance would need to meet contract provisions for cleanliness, there are no expected cumulative effects on noxious weeds from the road maintenance project.

The action alternatives propose to create staging areas, designate regulated camping zones, and designate OHV trails which would prohibit cross country travel. Trails would be maintained to be consistent with Forest Plan Standards and Guidelines. The short term impacts from designating trail would be limited to the trail itself. However, the non-significant Forest Plan amendment would prohibit cross country travel, and therefore produce a net reduction in the spread of noxious weeds through confining the OHVs, or vectors, to designated areas.

## Fisheries

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### Affected Environment

The project area lies within that portion of the watershed that is dominated by the Early High Cascades Platform. This area is characterized by very porous and permeable soils, and has relatively few perennial streams. A majority of streams in the area are ephemeral in nature and have no surface connection to the McKenzie River.

Big lake is the only fish bearing water body in the project area. Historically, it is a fishless lake, but is currently stocked by the Oregon Department of Fish and Wildlife (ODFW). The Upper McKenzie Watershed Analysis documented that brook trout, rainbow trout, cutthroat trout, and kokanee (landlocked sockeye salmon) are stocked in Big Lake. ODFW has recently begun stocking spring Chinook salmon in the lake in order to decrease the kokanee population. Like the kokanee, these Chinook salmon are landlocked (i.e. there is no outlet streams that would allow the fish to fulfill their anadromous life history).

The hatchery Chinook salmon planted in Big Lake are not considered part of the ESU (Evolutionary Significant Unit) listing because there is no opportunity for the salmon to migrate to the ocean. The non-ESU listed status of the hatchery Chinook was affirmed by the National Marine Fisheries Service (NMFS) in an e-mail message to the Willamette National Forest (USDC, NOAA Fisheries. 2006) In that message NMFS stated the following:

“The lake is out of the range of naturally migrating and outplanted listed fish, with no access by other Chinook populations. The fish stocked into Big Lake are surplus to the smolt program in the North Santiam River and are not needed, nor intended for, conservation/recovery purposes of the ESU. This release is strictly for fishing purposes in the lake.

Because the purpose of the fish in Big Lake is recreational fishing opportunities, the effects of other actions will not affect the ESU. Depending on when your proposed actions take place, they may be gone--and further outplantings are not expected. The Hatchery ESA Listing Policy was

described originally in Federal Register Notice 69 FR 31354, and summarized in the final policy in 70 FR 37204 with the following statement germane to these stocked fish:

‘Tribal harvest, non-tribal harvest, and other beneficial uses of surplus listed hatchery fish may be allowed provided they are managed consistent with the conservation and recovery needs of listed salmon and steelhead ESUs. Specifically, NMFS proposed to allow for the harvest of hatchery fish listed as threatened that are surplus to the conservation and recovery needs of the ESU, in accordance with fishery management plans approved under section 4(d) of the ESA.’

In this situation, the Chinook stocked in Big Lake, not for reintroduction or recovery purposes, provide no conservation value to the ESU, and fit the intent of our regulations.”

## Environmental Consequences

None of the alternatives would have actions adjacent to Big Lake (the only fish bearing water body in the project area). There is no designated EFH upstream of Tamolitch Falls. The hatchery Chinook salmon planted in Big Lake are not necessary to the conservation of the ESU (Evolutionary Significant Unit); and there are no streams with surface connection to the McKenzie River. The following rationale is used for this effects determination, as incorporated from the Fisheries Biological Evaluation in the analysis file:

There are no listed fish (spring Chinook salmon and bull trout) or designated critical habitat upstream of Tamolitch Falls, which is approximately 20 miles “downhill” from the project area. In addition, there are no streams in the project area that have surface connection to the McKenzie River. It is therefore physically impossible for effects from OHV use to be transmitted downstream to ESA listed fish habitat. This rationale is also applicable for a “no effect” designation for critical habitat for spring Chinook salmon and bull trout, and therefore, no additional cumulative effects would occur for these fish species.

MSA-EFH is not designated upstream of historical barriers (i.e. Tamolitch Falls). Therefore, no EFH exists in the project area, and as described above it is physically impossible for effects from OHV use to be transmitted downstream to EFH.

MIS fish that inhabit Big Lake were planted in the lake to provide for recreational opportunities. From a biological standpoint, they would not be considered desirable to the lake ecosystem. These populations persist naturally and by hatchery plantation (ODFW), and given the impacts from current OHV use and the ability of these fish to persist, it is highly unlikely that any alternative would have a negative effect to these fish nor would there be any cumulative effects. The proposed action is consistent with Executive Order 12962 (Recreational Fishing) as it would not limit recreational fishing opportunities in Big Lake.

Considering the above stated disclosures, the implementation of any of the action alternatives would have no direct, indirect, or additional cumulative effects on fish.

## Wildlife

### Affected Environment – Threatened, Endangered, Sensitive, and Other Wildlife Species of Concern (TES)

The Endangered Species Act (ESA), administered by the U.S. Fish and Wildlife Service (USFWS), mandates protection of threatened and endangered species. Listed species are typically habitat-specific with narrow geographic and environmental distributions. Proposed, threatened, endangered, and sensitive (PETS) species have specific requirements under the ESA and Willamette National Forest Plan to maintain viability. Protection includes managing habitat to minimize impacts, as well as prohibition of noise disturbance during the breeding season. Consultation is required with USFWS on activities that may affect these species or their habitat.

Table 9 lists the PETS wildlife species on the Willamette National Forest (USDA Forest Service, 2002) and whether there is potential habitat in the planning area. Additional detailed information about these species is in Appendix E –Wildlife Biological Evaluation.

**Table 9: Potential for Occurrence of PETS Species in the Project Area.**

Species	Habitat Present in the Project Area
<b><i>Amphibians and Reptiles</i></b>	
Oregon Slender Salamander	No
Cascade Torrent Salamander	No
Foothill Yellow-legged Frog	No
Oregon Spotted Frog	No
Northwestern Pond Turtle	No
<b><i>Birds</i></b>	
Least Bittern	No
Bufflehead	Yes
Harlequin Duck	No
Northern Bald Eagle	Yes
American Peregrine Falcon	Yes
Yellow Rail	No
Black Swift	No
Tri-colored Blackbird	No
Northern Spotted Owl	Yes
<b><i>Mammals</i></b>	
Baird's Shrew	No
Pacific Shrew	No
California Wolverine	Yes
Pacific Fisher	No
Pacific Fringe-tailed Bat	Yes
Lynx	No

Species	Habitat Present in the Project Area
<b><i>Mollusks</i></b>	
Crater Lake Tightcoil	Yes
<b><i>Invertebrates</i></b>	
Mardon skipper	No

## Environmental Consequences – Threatened, Endangered, Sensitive, and Other Wildlife Species of Concern (TES)

### Effects of Alternative 1

Alternative 1 does not propose management activities at this time and therefore would not alter habitat conditions for threatened, endangered or sensitive wildlife species. Existing vegetation conditions would continue to follow natural successional pathways and wildlife populations would respond accordingly. Additional snag habitat would occur through natural mortality in forest stands. No snag habitat used by certain TES species would be lost from hazard tree removal along roadsides or trails.

### Effects of Alternatives 2, 3, and 4

#### Direct and Indirect Effects

Felling of trees associated with trail construction and staging area widening for this project would be within predominately open lodgepole pine timber stands, but due to the limited context and intensity of actions within TES habitat, there is not expected to be a measurable negative effect on TES species populations.

#### Cumulative Effects

The area considered for cumulative effects analysis for TES species is the project area. Past management activities within this area, which includes timber harvest, recreation development, road building, and wildfire suppression activities, have resulted changes to the seral stage composition across the landscape. These past actions have altered habitat conditions for some TES species that utilize a more continuous forest canopy. Different species occupy different seral stage habitats, and therefore, the effect on each species depends on the type of change that has occurred. However, effects from the proposed project activities would result in only a small reduction of present snag habitat available on this landscape, and which may impact some TES species by reducing any habitat that exists in the young stands of trees. There are no other reasonably foreseeable future management activities planned for the project area that would result in additional cumulative effects to habitat for TES wildlife species.

## Affected Environment – Migratory Land Birds

Migratory landbirds and their required protection are outlined in the January 11, 2001, Executive Order “Responsibilities of Federal Agencies to Protect Migratory Birds.” A Memorandum of Understanding was signed between the USFS and USFWS to complement the January 2001,



Executive Order. Agreed-to measures include identification of habitats needed by priority species. Habitats vary broadly for this large group of species. The Project Area contains populations of migratory landbirds typical of the western Cascades.

There are 85 bird species recognized as neotropical migrants on the Willamette National Forest. Thirty-five of these species found on the Willamette National Forest have been identified as species of concern (Sharp, Brian. 1992). These species are associated with old-growth, riparian, rocky cliffs, or grass habitats. Snags in the area may be providing important habitat for Vaux's swifts, Williamson's sapsuckers, and American kestrels. Old growth stands can be found on the far western portions of this landscape, which may be supporting Cooper's hawks, olive-sided flycatchers, western wood-pewee, and mountain bluebirds.

Past wildfires and harvest in the project area has changed the seral stage composition of the landscape, altering habitat conditions for landbirds. In general, large snag habitat used by some landbird species, i.e. hairy woodpeckers and brown creepers, has been lost due to past wildfires, timber sales, and roadside salvage.

## **Environmental Consequences – Migratory Land Birds**

### **Effects of Alternative 1 (No Action)**

Alternative 1, No-Action, does not propose management activities at this time and therefore would not alter habitat conditions for migratory landbirds. Existing vegetation conditions would continue to follow natural successional pathways, and bird populations would respond accordingly. No snag habitat used by certain species of migratory land birds would be lost from roadside hazard tree removal. Additional snag habitat would occur through natural mortality in forest stands.

### **Effects of Alternatives 2, 3, and 4**

#### **Direct and Indirect Effects**

Felling of trees associated with trail construction and staging area widening in this project may unintentionally affect individual migratory birds, but is not expected to have a measurable negative effect on bird populations because of the limited context and intensity of actions with the potential to remove habitat.

#### **Cumulative Effects**

The analysis area considered for cumulative effects on migratory landbirds is the project area. Past management activities and wildfire within the project area have resulted in changes to the seral stage composition across the landscape altering habitat conditions for landbirds. Different species occupy different seral stage habitats and therefore the effect on each species depends on the type of change that occurred. However, given the small reduction in snag habitat expected on this landscape from the proposed activities, only minor impacts are expected to any migratory landbirds by reducing habitat that exists in the young stands of trees. There are no other reasonably foreseeable future activities planned that could further reduce habitat for migratory landbirds.

## **Affected Environment – Wildlife Management Indicator Species**

Management Indicator Species (MIS) were addressed in the Willamette Forest Plan. They include the spotted owl, pileated woodpecker, marten, elk, deer, cavity excavators, bald eagle, and peregrine falcon. All of these management indicator species may occur in the project area.

Through Region-wide coordination, each Forest has identified the minimum habitat distribution and habitat characteristics needed to satisfy the life history needs of MIS. Management recommendations to ensure their viability were incorporated into all Willamette National Forest Plan Action Alternatives. Current conditions for the spotted owl and bald eagle are discussed in the Wildlife BE in Appendix E. Habitat for elk and deer is discussed below in the Elk Emphasis Area Management section.

## **Environmental Consequences – Management Indicator Species**

### **Effects of Alternative 1 (No Action)**

#### **Direct and Indirect Effects**

Under Alternative 1, no changes would occur to habitat of management indicator species. Forest stands would continue to develop following natural successional pathways and the aquatic resources would remain unchanged from current conditions. Alternative 1, no action, would meet all applicable Standards and Guidelines for management of MIS from the Willamette Forest Plan.

### **Effects of Alternative 2, 3, and 4**

#### **Direct and Indirect Effects**

All action alternatives meet all applicable Standards and Guidelines from the Willamette Forest Plan and Northwest Forest Plan Standards and Guidelines, and therefore maintain persistent populations of spotted owls, pileated woodpeckers, and marten (USDA Forest Service, USDI Bureau of Land Management. 1994. Appendix J2). Changes in the amount or in the characteristics of required habitat for these species would be minimal.

A discussion of the effects of alternatives on the spotted owl, bald eagle, and peregrine falcon can be found in the Biological Evaluations in Appendix E. This project is not expected to have any effect on the northern spotted owl since no removal of suitable habitat is proposed, and a seasonal restriction on the felling of danger trees is included in Mitigation Measures. This project would also have no effect on bald eagles or peregrine falcons. Impacts of this project on elk habitat are discussed below in the elk and deer habitat analysis.

The Regional Forester's Sensitive Species List (USDA Forest Service. 2002) does not indicate that populations of pileated woodpeckers and marten are in decline throughout their range. However, individual pileated woodpeckers and marten may be temporarily displaced by the effects of OHV activities in this area.

## Cumulative Effects

The analysis area considered for cumulative effects on MIS species is the project area. Wildlife species listed as MIS for the Willamette National Forest and present in the project area are discussed elsewhere in this EA and in the analysis file. Cumulative effects on elk and deer are discussed below and in the analysis file.

When considering the effects from past actions such as road building, developed site construction, and fire suppression, there would be almost no measurable additional effects on MIS species or their habitat, including pileated woodpeckers and marten, from the proposed action or any action alternatives. There are no reasonably foreseeable future habitat management activities planned for the project area, which would add to the cumulative effects of past actions and the proposed action.

## Affected Environment – Elk Habitat

The Santiam Pass Summer Motorized Recreation project contains three Elk emphasis areas as a designated under the Willamette NF Land and Resource Management Plan. The Watershed Analyses covering the project area included results from a Habitat Effectiveness Index (HEI) analysis (Wisdom et al. 1986) for these Emphasis Areas. Table 10 displays the habitat values for habitat patch size and spacing (HEs), open road density (HEr), cover quality (HEc), forage quality (HEf), and overall habitat quality (HEI) that existed for big game habitat when watershed analyses was conducted for this area in 1995.

The analysis for these elk emphasis areas showed standards for all habitat variables were being met except for the amount and quality of forage in the Frost Emphasis Area, and cover quality and overall habitat effectiveness in the Hoodoo Emphasis Area. Forest management emphasis since that time has shifted, and resulted in a forest-wide trend towards decreasing forage quality for big game. Management activities that affect big game forage habitat at a scale sufficient to reverse the declining trend in forage quality, has not occurred in most of these Elk Emphasis Areas during the past decade. However, the large wildfire (B & B Complex) that occurred within the Hoodoo Emphasis Area in 2003 is expected to provide good quality forage in the near future

**Table 10: Habitat Effectiveness Index Analysis.**

Big Game Emphasis Area Name	Emphasis Level	Individual HEI Indices				Overall Index
		HEs	HEr	HEc	HEf	HEI
<i>Frost</i>	Moderate	0.53	0.57	0.57	0.28	0.47
<i>Hoodoo</i>	Moderate	0.55	0.40	0.21	0.49	0.49
<i>E. Side Upper McKenzie</i>	Low	0.63	0.54	0.36	0.27	0.23

## Environmental Consequences – Elk Habitat

### Direct and Indirect Effects

Project effects on elk and deer habitat within the affected Elk Emphasis Areas are essentially unquantifiable on an individual basis relative to the amount of habitat modified or disturbed against the amount available to these species on a daily basis. Direct and indirect effects are largely limited to potential temporary displacement of individual animals, which may occur in habitat during implementation of the proposed activities.

In light of what is currently known about local deer and elk populations, the future viability of these species should be assured given good distribution of habitat components. The recent wildfires to the north and east have created an abundance of much needed forage. The proposed closure of roads to motorized traffic with Alternatives 2, 3, and 4 would help provide security for big game and reduce disturbance to wildlife.

### Cumulative Effects

The analysis area considered for cumulative effects on elk habitat is the combined area within the Elk Emphasis Areas listed above. Past management activities within this area, which includes timber harvest, recreation developments, road building, and wildfire suppression activities, have resulted in changes to the seral stage composition which alters the habitat for elk. Proposed project activities, which include a minor amount of tree removal during trail construction or staging area widening, and road closure and decommissioning, would not result in any measurable change to existing elk habitat. There are no other reasonably foreseeable future management activities planned for the project area which would result in additional changes to elk habitat.

## Survey and Manage Wildlife Species

As discussed above for botanical Survey and Manage Species, on July 24, 2007, the Under Secretary of the Department of Agriculture signed a new Survey and Manage Record of Decision<sup>7</sup> that removed the survey and manage requirements from all of the National Forests' land and resource management plans (LRMPs) within the range of the northern spotted owl. However, since the court in *Northwest Ecosystem Alliance et al v. Mark Rey et al, Civ. No. 04-844, Western District of Washington* has not yet granted the government's motion to lift the modified October 11, 2006 injunction, this project is designed to be consistent with the 2001 Survey and Manage ROD as modified by subsequent annual species reviews as allowed by the modified October 11, 2006 injunction. To comply with this order, Forest Service and Bureau of Land Management units are required to survey for 2001 ROD (amended March 2004) Category A and C species.

Surveys were not required for the project area for red tree voles or Survey and Manage mollusk species. Historic surveys were conducted on Great gray owl and no nests were found (see Wildlife

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<sup>7</sup> Complete Title: Record of Decision To Remove the Survey and Manage Mitigation Measure Standards and Guidelines from Forest Service Land and Resource Management Plans Within the Range of the Northern Spotted Owl.

Specialist Report in the analysis file). Therefore, there would no effect on any Survey and Manage wildlife species.

## Scenic Quality

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### Affected Environment

The landscape within and adjacent to the project area can be characterized as a lodgepole pine dominate forest with grassy openings against a backdrop of the cinder cones north and south Sand Mountain, and Hoodoo and Hayrick Buttes. In the distant are higher peaks along the Cascade crest that include Mt. Washington and the Three Sisters. The two main travel routes into the project area from Highway 20 are the paved Big Lake Road and the native surfaced Santiam Wagon Road, that extends from the west boundary at the Eno Road east to the Forest boundary at the Cascade crest.

Natural and human-caused disturbances have modified the landscape and are visible within and adjacent to the project area. Modification that have occurred over the last century are attributed to wildfire, tree disease, timber harvest, fire suppression, road construction, ground disturbance from recreational OHVs, and development of facility at Hoodoo Ski Area, Ray Benson Sno Park, Big Lake Campground Complex, and Big Lake Youth Camp.

The project area includes Forest Plan Management Area 11-f, *Scenic, Retention Foreground*, which is the foreground along the south side of US Highway 20. This management allocation has a scenic emphasis, and was partially burned in the B & B Complex Fire in 2003.

### Visual Quality Objectives (VQO)

The Forest Plan establishes Visual Quality Objective (VQO) categories to describe degrees of acceptable alteration of the natural landscape when considering timber stand management (Forest Plan FEIS, page III-112). As detailed above, action alternatives would occur in Management Areas MA-5a, MA-10b, MA-10e, and MA-12b (Chapter 1, Forest Plan). Management Areas within the project area include standards and guidelines that relate to Scenic Resources, with a reference to the VQO standard that is to be met. Management Area MA-5a has a VQO of Retention, MA-10b has a VQO of Partial Retention, MA-10e has a VQO of Retention, and MA-12b has a VQO of Partial Retention,

## Environmental Consequences

### Effects of Alternative 1, No Action

The no-action alternative would not change the current management situation within the project area. No management actions would occur within MA-11f along US Highway 20, nor would any harvest of trees occur within the project area for developing staging areas. All management areas within the project area would meet the assigned VQOs for Scenic Resources. No actions would be taken to regulate OHVs by designating Forest roads and trails, and no amendments to the Willamette Forest Plan to restrict off-road, or cross country travel.

The soils and vegetative cover are susceptible to displacement as discussed above (Soils), so it is likely that over time, soil disturbance from recreational OHVs would continue and new user-created tracks would appear to the Forest visitor driving into the project area.

### **Effects Common to Alternatives 2, 3, and 4**

None of the action alternatives propose management activities within MA-11f along the south side of US Highway 20 to further reduce the tree canopy.

Actions taken to designate Forest roads and trails for OHV use within all action alternatives include restoration of user-created tracks that would not be incorporated in the system of trails created and are located in the Management Areas listed above. All action alternatives would include non-significant Forest Plan amendment #49 to restrict OHV use to designated roads and trails. With the restriction on cross-country travel, visual quality would be improved because many of the user-created tracks and OHV crossings seen when driving along the Big Lake Road and Santiam Wagon Road would be blocked and rehabilitated, and no new user-created tracks would be created on the landscape.

All action alternatives would create a staging area along Forest road 2690 at the junction of 2690-860, which would include widening the existing opening and cutting approximately one-half acre of lodgepole pines. Developments at the day-use staging area would include an area to off-load ATVs, a parking area, informational kiosks, and portable toilet facilities. Development of this staging area would not have a negative effect on visual quality along the Big Lake Road. This proposed action would maintain a VQO of Partial Retention for MA-10b where the staging area is located, and it would remain consistent with Forest Plan Standards and Guidelines.

### **Effects of Alternative 2**

Alternative 2 would include a second staging area to the north of the intersection of the Big Lake Road and Santiam Wagon Road, outside of the SIA. The staging area would be approximately one acre and constructed along Forest road 2690-862. The staging area would be out of view for travelers on the Big Lake Road and Santiam Wagon Road. Developments at the day-use staging area would include an area to off-load OHVs, a parking area, informational kiosks, and toilet facilities. A small number of lodgepole pines would be cut and removed during construction. Development of this staging area would also be consistent with a VQO of Partial Retention for MA-10b, and consistent with the Forest Plan.

Alternative 2 would include an Open Play on area south of the Santiam Wagon Road SIA, and north of the Sand Mountain SIA and visible from the Santiam Wagon Road along Forest road 2676-866, and from Forest road 2690-810 on the climb to Sand Mountain Lookout.

This alternative also includes a Kiddie Loop youth learning trail which would be seen from both the Santiam Wagon Road on Forest road 2690-810 and from the Big Lake Road 2690, near the Big Lake Campground Complex. The Kiddie Loop trail would appear as a winding loop trail within an area of approximately 18 acres, where parents can instruct and monitor younger OHV users on the looping trail.

### **Effects of Alternative 3**

Alternative 3 would include a second staging area at the Ray Benson Sno Park north of Forest road 2690. The staging area would not be seen from 2690. Developments at the day-use staging area would include an area to off-load OHVs, a parking area, informational kiosks, and toilet facilities. Development of the staging area would utilize the Sno Park facility and would not require any tree removal for expansion. The staging area development would not be seen from the Big Lake Road and would not affect scenic quality.

This alternative does not include the Open Play Area near Sand Mountain Lookout. It also includes the Kiddie Loop youth learning trail as in Alternative 2, and a smaller Kiddie Loop youth learning trail north of and adjacent to Ray Benson Sno Park, which would not be seen from the Big Lake Road 2690.

### **Effects of Alternative 4**

Alternative 4 would include a second staging area at the Ray Benson Sno Park north of Forest road 2690. The staging area would not be seen from 2690. Developments at the day-use staging area would include an area to off-load ATVs, a parking area, informational kiosks, and toilet facilities. Development of the staging area would utilize the Sno Park facility and would not require any tree removal for expansion. Alternative 4 also designates a section of Ray Benson Sno Park for overnight fee camping. The staging area development and the overnight camping area would be seen from the Big Lake Road and therefore, would not affect scenic quality.

This alternative also does not include the Open Play Area near Sand Mountain SIA. It includes only the smaller Kiddie Loop youth learning trail north of and adjacent to Ray Benson Sno Park, which would not be seen from the Big Lake Road 2690.

### **Cumulative Effects**

The area of analysis considered for cumulative effects on scenic quality is the project area. Much of the past actions that altered the scenic landscape can be attributed to construction of Forest roads, fire suppression during the 1967 Airstrip Fire, and the facilities development at the Hoodoo Ski Area, the Big Lake Youth Camp, and the Big Lake Campground Complex. The proposed actions of constructing day use staging areas near the Big Lake Road, construction of Kiddie Loop youth learning trails, and the Open Play Area adjacent to the Santiam Wagon Road, would add developed use areas to the landscape. OHV use would be evident to travelers on the Big Lake Road and Santiam Wagon Road, as these areas would be seen within the foreground and middleground to travelers on these roads.

Considering that non-significant Forest Plan Amendment #49 would restrict OHVs to designated Forest roads and trails, and that many user-created tracks along the Big Lake Road and Santiam Wagon Road would be and rehabilitated, there would be a net improvement in scenic quality as OHV impacts would be reduced from the foreground while driving the Big Lake Road and Santiam Wagon Road.

The foreseeable action of reshaping and grading the Santiam Wagon Road, as discussed in Chapter 2, would begin to improve the scenic quality along the historic wagon road.

## **Mt. Washington North and West Inventoried Roadless Areas**

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### **Affected Environment**

The Mt. Washington North and West Inventoried Roadless Areas (IRA) were designated as a result of an evaluation process that was conducted in following important legislative activities in the 1970s and 80s. These include the Wilderness Act, the second Roadless Area Review and Evaluation (RARE II), the National Forest Management Act, and the 1984 Oregon Wilderness Act, and the Forest Service Roadless Area Conservation FEIS (USDA Forest Service. Volume 2, November 2000) and the January 12, 2001 Roadless Rule (US Code of Federal Regulations. 2001).

#### ***Mt. Washington North IRA***

The 1,003 acre Mt. Washington North IRA is what remains unaffected by road development activities from the original 1,130 acres analyzed in RARE II, but not included in the Oregon Wilderness Act. The area is contiguous to the central northern boundary of Mt. Washington Wilderness, immediately southwest of Big Lake. It is characterized by rolling gentle terrain common to the project area, with a mixed stand of lodgepole pine, mountain hemlock, Pacific fir, and noble fir covering virtually the entire area. The vegetation is dense and continuous over the entire area with an occasional small opening.

Management activities within this IRA include maintaining the two trails which traverse the area. The Patjens Lake trail received the majority of use, with a trailhead near the Big Lake Campground Complex. No motorized use is allowed on the two trails, and dense vegetation precludes cross-country OHV use in the area.

The surroundings to the north of the IRA are dominated by the Big Lake Campground and the OHV use along the east-west Santiam Wagon road. However, the rolling terrain and limited diversity of topography offers some screening potential while dense vegetation screens people from one another, even within a quarter mile. However, the opportunity for solitude is affected year-around by powerboats on Big Lake and OHV use in the summer and fall and snowmobiles in the winter and spring, which can be heard from the IRA (USDA Forest Service. 1990a, Appendix C, pages 87-93 and 94-101).

#### ***Mt. Washington West IRA***

Of the 6,676 total acres within the Mt. Washington West IRA, approximately 2,212 acres is located in what remains unaffected by road development activities within the project area. The area analyzed for this project is roughly bounded by Forest road 2676 to the west, 2676-723 to the north and east, and the Mt. Washington Wilderness to the south. Contiguous with the northern boundary of Mt. Washington Wilderness, it includes the west side of Sand Mountain and Nash Crater. Slopes are much steeper than Mt. Washington North IRA as the terrain slopes down to lower elevations at road 2676 and to the west. Timber stands are mixed stand of lodgepole pine, mountain hemlock, Pacific fir, and



noble fir, with western hemlock, Douglas-fir, and western red cedar along the northern and western portions.

The Eno Segment (road 2676-866) of the Santiam Wagon Road bisects the lobe of the IRA within the project area. The opportunity for solitude within the project area may be limited due to the narrow width of the area between road 2676 and 2676-723.

## **Environmental Consequences**

### **Effects of Alternative 1**

Alternative 1 would not change the current management situation of the area adjacent to either the Mt Washington North or West IRAs. Forest road 2690-890, currently provides motorized vehicle access to the northern boundary of the Mt. Washington North IRA, and those roads previously mentioned above provide vehicle access to the area surrounding the Mt. Washington West within the project area. There would be no change to Management Standard and guideline that permits off-road vehicle access in MA-10b, which allows OHVs to travel cross-country within the Mt. Washington North and West IRAs.

### **Effects of Alternatives 2, 3, and 4**

#### **Direct and Indirect Effects**

None of the action alternatives would directly affect either the Mt Washington North or Mt. Washington West IRA with new road or trail construction. Alternatives 2 and 3 propose OHV trails in the area to the north of the Mt. Washington North IRA. However, with OHV continuing to be used adjacent to the IRA in Alternatives 2 and 3, there would be no change to the effects of noise along Forest road 2690-890. Alternative 2 would allow motorized mixed use on the Eno Segment of the Santiam Wagon Road (2676-866), as with the existing condition within the Mt. Washington West IRA. However, Alternatives 3 and 4 would prohibit OHVs from using the Eno Segment of the Santiam Wagon Road thereby reducing access within the IRA from the Wilderness boundary north to the 2676-723 on the northern boundary.

The effects of the action alternatives on water quality, soils, and air are discussed elsewhere in this chapter (Soils and Fire and Fuels). Because of the heavily roaded condition of the project area, these Roadless areas would continue to provide the diversity of plant and animal species that would be found in large, natural unmanaged stands where there would be no disturbance from roading and forest management activities. None of the action alternatives would decrease the diversity of plant and animal species in the IRA. Effects of the proposed units on the habitat for other Threatened, Endangered, or Sensitive species are also discussed elsewhere in this chapter. Action alternatives 2, 3, and 4 do not propose actions that would affect TES species or their habitat within either the Mt. Washington North or Mt. Washington West IRAs. Because of the existing roaded condition adjacent to the IRAs the proposed action is not expected to affect areas that would function as biological strongholds or refuges for species that depend on large undisturbed areas, such as for the Threatened northern spotted owl. Alternatives 2, 3, and 4 would not change the current level of opportunity to experience primitive or semiprimitive non-motorized recreation within the IRAs.

There are limited opportunities for recreation activities that depend on remoteness and wilderness-like experiences in this area, as discussed above. Recreational use of OHVs and motor boats on Big Lake can be heard from the eastern portion of the Mt. Washington North IRA. The proposed action and other action alternatives would not diminish any sense of remoteness or solitude as it currently exists within the IRA. Since no actions are proposed within the IRA, there would be no adverse effects on the landscape character and scenic integrity.

There would be no effect on traditional cultural properties or sites within the IRA from implementation of the proposed action or any other action alternative.

### **Cumulative Effects**

The area considered for cumulative effects is the Mt. Washington North and Mt. Washington West IRAs and the area adjacent to them because this is the extent of the area that could potentially impact the IRA. As described previously (in Visual Quality), management that includes timber harvest, fire suppression, road construction, ground disturbance from recreational OHVs, and development of facilities at Big Lake Campground Complex, and Big Lake Youth Camp is evident on lands in the project area adjacent to these IRAs. Alternative 2 would continue to allow OHV use on Forest road 2690-890, 2676, 2676-723, the Eno Segment of the Santiam Wagon Road, and on road 690-811 that accesses Sand Mountain Lookout. As a result Alternative 2 would not change the cumulative effect of past management on the IRA from OHVs, except than to restrict OHVs to designated roads and trails with Non-significant Amendment #49. Alternative 3 and 4 would eliminate motorized mixed use access on the Eno Segment of the Santiam Wagon Road which transects through the Mt. Washington West IRA, and therefore, it would reduce the cumulative effects of past management within this IRA. No action alternative would construct roads or harvest timber within IRA, and therefore all alternatives remain consistent with the January 12, 2001 Roadless Rule.

The developments at Big Lake Campground and Big Lake Youth Camp contribute high levels of noise for most of the summer and autumn from motor boats, recreation vehicles and camping generators. Noise from motor boats on Big Lake would still have a dominant affect on the noise environment in the Mt Washington North IRA.

Big Lake Youth Camp is situated immediately adjacent to the Mt. Washington North IRA on the east side of Big Lake. The camp proposes to construct additional buildings and recreation facilities within their Special Uses Permit Area and adjacent to the IRA. This reasonably foreseeable future action is not expected to change the noise environment within the Big Lake Youth Camp, and it would therefore, not constitute additional cumulative effects from noise for this IRA. No other management actions are planned within the project area that would result in additional cumulative effects to the Mt. Washington North and Mt Washington West IRA.

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## Fire and Fuels

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### Affected Environment

Large, stand-replacement wildfires that occur in the Santiam Pass area tend to grow in an east to west direction, as the winds funnel through the mountains that make up the Cascade Crest. In 1967, lightning caused the 2,700 acre Airstrip Fire northwest of Big Lake. The fire started near the old airstrip and Cayuse Horse Camp and grew mostly in an east to west direction. The fire created an opening in the timber canopy from Sand Mountain on the west end extending to beyond the forest boundary, where it burned east another 3,412 acres on the Deschutes National Forest. It also grew to the north threatening the Hoodoo Ski Bowl and south across the Santiam Wagon Road, to what later became the Mt. Washington Wilderness boundary. During fire suppression efforts, numerous dozer lines were made to control the fire boundary. These dozer lines eventually became well-traveled forest roads that are currently being used by OHV.

Within the last 10 years, the largest fires have been lightning ignited. The B&B Fire in 2003 and the Lake George Fire in 2006 both occurred on the Deschutes National Forest and burned west onto the Willamette National Forest. Annual human-caused fires have been few and small, generally less than one tenth of an acre in size, and many are campfires left unattended or not extinguished when campers leave and discovered by fire patrols before they have a chance to grow.

### Environmental Consequences

#### Effects of Alternative 1

Under the no-action alternative, fire patrols, public fire information education, and response to fires and emergencies would continue to be difficult because of the existing road conditions and driving safety hazards. The safety hazards are related to unregulated use of existing roads and trails by OHVs and the development of user-created tracks, which connect the Forest roads and may result in sudden appearance of ATVs onto roads used by Fire Patrol and Forest Service workers on patrol for fire hazards and abandoned campfires.

Alternative 1 does not address maintenance of the Santiam Wagon Road, which provides an important access the Sand Mountain Lookout on Road 2690-810. Traveling to and from the lookout for administrative use and is done frequently in the spring, summer, and fall seasons. The driving safety hazards would remain with a continuation of mixed motorized traffic and a continuing degradation of the Santiam Wagon Road.

#### Effects of Alternatives 2, 3, and 4

##### Direct and Indirect Effects

The proposed action to designate a motorized system of roads and trails would reduce the potential for safety hazards for fire patrols and administrative traffic. Proposed amendment #49 would restrict OHVs to the designated routes and aid in reducing the potential for fire starts in the forested areas where combustible fuels are continuous and susceptible to fire ignitions. Implementation of this plan

would include kiosks where fire precautions can be posted, thus helping users to understand safety measures they can take to reduce fire hazards.

All action alternatives include a Regulated Camping Zone to restrict dispersed camping to within 100 feet of either sides of the Santiam Wagon Road and the Big Lake Road. Known locations of designated dispersed campsites in the regulated camping zone would help to identify where fire patrols can scout for unattended or forgotten campfires, a common way human-caused wildfires occur.

The construction and rehabilitation of roads and trails would involve brushing and limbing or falling trees in the new area of construction, but this activity is not likely to create a large amount of hazardous fuels. The fuels that are created would be treated in place or taken to a place where it can be treated. Preferred treatments for the minor amounts of fuels would be by lopping and scattering of the slash in the area. If there are 10 or more trees then they would can be piled and burned in the winter. The hazardous fuels created (slash of 0-3 inches in diameter) would remain to be less than a fuel loading of 7 to 11 tons per acre, consistent with Forest Plan Standard and Guideline.

A staging area would to constructed on Forest road 2690 south of road 2690-860. It is designed to be approximately one to two acres in size and would require clearing of minor amounts of lodgepole pine. Any residual fuels from cutting these trees would not result in more than the 7 to 11 tons per acre. If there are less than 10 trees removed, hazardous fuel would be lopped and scattered in the forested area. If more than 10 trees are cleared the hazardous fuel would be piled and then subsequently burned in the late fall or winter season. Air quality standards would be met.

### **Effects Specific to Alternatives 2**

In addition to the staging area common to all action alternatives, one additional staging area would be created at the junction of the Forest roads 2690 and 2690-810, approximately one acre in size. The area is already partially clear with some tree islands. There would be several trees removed to adjust for spacing and safety in the staging area. Hazardous fuels would remain within Forest Plan standard and guideline of 7 to 11 tons per acre.

### **Effects Specific to Alternatives 3**

Alternative 3 proposes to establish road closures on the Santiam Wagon Road, from the junction of Forest roads 2690-810 and 2690-860, along 2676-866 to 2676, which would allow administrative use only including access to the Sand Mountain Lookout and for fire patrols as well as for fire suppression. Existing driving safety hazards for fire patrols along this roadway would be reduced with the road closures.

### **Effects Specific to Alternatives 4**

Alternative 4 proposes to allow only highway legal vehicles on the Santiam Wagon Road. The restriction would help with driving safety hazards that exist for fire patrols encountering ATVs at trail crossings. Additionally, this alternative does not designate OHV routes south of the Santiam Wagon Road, except for two trail crossings that provide access to the Big Lake Campground Complex. The restriction would aid in reducing the potential for human-caused wildfires from OHV use south of the Santiam Wagon Road.

## Cumulative Effects

The area considered for analysis of cumulative effects for fire and fuels is the project area. Considering the current roaded condition of the project area from past actions, the area is known for having driving safety hazards for summer fire patrols that encounter ATVs at unmarked road crossings. The unregulated use of ATVs also increases potential for human-caused fires in the area. The no-action alternative would not reduce any of these hazards that current exist, and may allow an increase over time.

The action alternatives would reduce cumulative effects from unregulated OHV use with respect to fire patrol safety by regulating OHV use with a designated system of roads and trails. Action alternatives would also reduce the potential for human-caused fires throughout the project area by restricting OHV use to designated roads and trail. There are no other reasonably foreseeable future actions in the project area that would affect the safety of fire patrols or change the potential for human-caused fires.

## Compliance with Other Laws, Regulations and Executive Orders

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This section describes how the action alternatives comply with applicable State and Federal laws, regulations and policies.

### State Laws:

*Consistency with State of Oregon Vehicle Code* – Operation of all off highway vehicles within the Santiam Pass Summer Motorized Recreation project area will be required to meet all pertinent rules and regulations found within, Oregon Revised Statutes, Chapter 821 – Off-Road Vehicles; Snowmobiles; All-Terrain Vehicles. Additional Federal rules and regulations may apply that exceed Oregon Revised Statutes.

### Federal Laws and Executive Orders:

*The Preservation of Antiquities Act, June 1906 and the National Historic Preservation Act, October 1966* – Before project implementation, State Historic Preservation Office consultation is completed under the Programmatic Agreement among the United States Department of Agriculture, Forest Service, Pacific Northwest Region (Region 6), the Advisory Council on Historic Preservation, and the Oregon State Historic Preservation Officer regarding Cultural Resource Management on National Forests in the State of Oregon, dated June 2004.

According to the district records, 3 sites and 2 isolated finds have been recorded within or adjacent to the proposed Summer Santiam Motorized Recreation project area and both pre-contact and historic. The pre-contact sites are lithic scatters or lithic isolates, which represent both task locations and camp sites. The sites relate to trans-Cascade travel, since Santiam Pass provided ready access to several prominent river drainages.

Historic sites in the planning area also relate primarily to travel and secondarily to recreation. There are many historic isolates such as cans and bottles, which are technically historic in that they are over 50 years old, but which are mundane and not significant because of their limited ability to yield information. Conversely, there are scatters of such materials associated with highly significant cultural sites including the Santiam Wagon Road, and the Oregon-Pacific Railroad construction sites. The Wagon Road is eligible for the National Register of Historic Places and the Oregon-Pacific Complex (also known as Hogg Railroad) is listed on the National Register. These two sites and their associated features are highly significant. Field surveys have been completed where ground-disturbing activities would occur in the Santiam Pass Summer Motorized Recreation project area and are documented in the Heritage Resources Specialist Report in the project analysis file. Should previously unknown sites be found during ground disturbing activities, contract provisions would provide protection and the McKenzie River District Archaeologist would be immediately notified.

These various measures resulted in a determination of **No Historic Properties Adversely Affected**. Various mitigation measures would be implemented under the action alternatives. There would be no adverse effect to any NRHP eligible or potentially eligible historic property.

***The Endangered Species Act (ESA), December 1973*** – The ESA establishes a policy that all federal agencies would seek to conserve endangered and threatened species of fish, wildlife and plants. Biological Evaluations for fish, plants, and wildlife have been prepared, which describe possible effects of the proposed action on sensitive, and other species of concern that may be present in the project area. (See Botany, Fish, and Wildlife analyses.)

***Clean Air Act Amendments, 1977*** – The alternatives are designed to meet the National Ambient Air quality standards through avoidance of practices that degrade air quality below health and visibility standards. This project is consistent with the 1990 Clean Air Act and the 1977 Clean Air Act and its amendments. Little to no burning of slash is anticipated. (see Fire and Fuels).

***The Clean Water Act, 1987*** – This act establishes a non-degradation policy for all federally proposed projects. Compliance with the Clean Water Act would be accomplished through planning, application and monitoring of Best Management Practices (BMPs).

There are no streams in the Santiam Pass Summer Motorized Recreation Project that have a surface connection to the McKenzie River. There are no streams in the project area listed by Oregon Department of Environmental Quality as 303(d), as water quality limited based on water temperature during the summer season. (See Soils)

***Inventoried Roadless Areas (IRAs) and Wilderness*** – The Mt. Washington IRA is included within the project area. There are no actions proposed within Inventoried Roadless Areas (IRAs) or Wildernesses in the Santiam Pass Summer Motorized Recreation Project. No alternative propose any action that would affect these designations. (See Mt. Washington North IRA.)

***Executive Order 11644: Use of off-road vehicles on the public lands*** – Executive Order 11644 establishes policies and provides for procedures that will ensure that the use of off-road vehicles on public lands will be controlled and directed so as to protect the resources of those lands, to promote the safety of all users of those lands, and to minimize conflicts among the various uses of those lands.

The Santiam Pass Summer Motorized Recreation Project proposes to address this Executive Order by designating a system of roads and trails and staging areas to encourage safe and challenging recreational OHV use, by taking steps to rehabilitate and protect the historic Santiam Wagon Road into the future, by restricting OHV use to the designated road and trail system to protect soils, plants, and other natural resources within the project area, and by minimizing recreation user conflicts currently identified within the project area.

***Executive Orders 11988 and 11990: Floodplains and Wetlands*** – Executive Order 11988 requires government agencies to take actions that reduce the risk of loss due to floods, to minimize the impact of floods on human health and welfare, and to restore and preserve the natural and beneficial values served by floodplains. Proposed actions within the Santiam Pass Summer Motorized Recreation Project would not occur within 100-year floodplains.

Executive Order 11990 requires government agencies to take actions that minimize the destruction, loss, or degradation of wetlands. All actions detailed in Chapter 2 comply with amended Willamette Forest Plan Standards and Guidelines. All actions proposed would be consistent with Executive Orders 11988 and 11990.

***Executive Order 12898: Environmental Justice*** – Executive Order 12898 requires that federal agencies adopt strategies to address environmental justice concerns within the context of agency operations. With implementation of the proposed action or any of the alternatives, there would be no disproportionately high and adverse human health or environmental effects on minority or low-income populations. The proposed actions would occur in a remote area, and nearby communities would mainly be affected by economic impacts connected with contractors implementing road and trail construction and reconstruction or rehabilitation, and Santiam Wagon Road restoration activities. Racial and cultural minority groups could also be prevalent in the work forces that implement road and trail work and restoration activities. Contracts contain clauses that address worker safety.

***Executive Order 12962: Recreational Fishing*** – The June 7, 1995, Executive Order requires government agencies to strengthen efforts to improve fisheries conservation and provide for more and better recreational fishing opportunities, and to develop a new policy to promote compatibility between the protection of endangered species and recreational fisheries, and to develop a comprehensive Recreational Fishery Resources Conservation Plan.

None of the alternatives would impact fish stocked in Big Lake, and none of the alternatives propose to limit fishing opportunities. The Forest Service would continue to work with ODFW to stock fish appropriate for recreational angling purposes (See Fisheries).

***Executive Order 13186: Neotropical Migratory Birds*** – There are 85 bird species recognized as neotropical migrants on the Willamette National Forest. Thirty-five of these species found on the Willamette have been identified as species of concern (Sharp 1992). A Memorandum of Understanding was signed between the USFS and USFWS to complement the January 2001, Executive Order.

The Santiam Pass Summer Motorized Recreation Project area contains populations of migratory landbirds typical of the western Cascades. However, no vegetation management actions are proposed that would affect neotropical migratory bird habitats. (See Wildlife)

***The National Environmental Policy Act (NEPA), 1969*** – NEPA establishes the format and content requirements of environmental analysis and documentation. Preparation of the Santiam Pass Summer Motorized Recreation Project EA was done in full compliance with these requirements.

***The National Forest Management Act (NFMA), 1976*** – No stand treatments are proposed with this action. Isolated trees may require cutting to relocate or improve roads and trails designated for OHV use. Clearing of trees would also occur to widen existing clearings in order to create two 1 acre staging areas along Forest road 2690 and near the junction of 2676-810 and 2690.

***Forest Plan Consistency*** – Actions analyzed in the Santiam Pass Summer Motorized Recreation Project EA are consistent with a broad range of Forest Plan Standards and Guidelines that have been discussed and disclosed throughout the document. Designation of roads, trails, and other areas for recreational OHV use associated with the Santiam Pass Summer Motorized Recreation Project are consistent with the goals and management direction analyzed in the Willamette National Forest Land and Resource Management Plan FEIS and Record of Decision. The restoration of the Santiam Wagon Road and other improvements to rehabilitate user-created tracks not incorporated into this project address watershed restoration needs, and are designed to be consistent with the 1994 Northwest Forest Plan amendments to the Forest Plan and the Aquatic Conservation Strategy objectives.

***Other Jurisdictions*** – There are a number of other agencies responsible for management of resources within the Santiam Pass Summer Motorized Recreation Project Area. The Oregon Department of Fish and Wildlife is responsible for management of fish and wildlife populations, whereas the Forest Service manages the habitat for these animals. The Oregon Department of Fish and Wildlife received the scoping document.

This document was prepared in collaboration with Oregon Department of Environmental Quality and United States Environmental Protection Agency to provide documentation of Northwest Forest Plan compliance with the Clean Water Act with regard to state water quality standards for stream temperatures. As such, it redeems several of the Forest Service responsibilities identified in “Memorandum of Understanding between USDA Forest Service and Oregon Department of Environmental Quality To Meet State and Federal Water Quality Rules and Regulations” (USDA Forest Service and Oregon DEQ, May 2002).

Oregon Department of Environmental Quality and the Oregon Department of Forestry are responsible for regulating all prescribed burning operations. The USDA Forest Service Region 6 has a Memorandum of Understanding with Oregon Department of Environmental Quality, Oregon Department of Forestry, and the USDI Bureau of Land Management regarding limits on emissions, as well as reporting procedures. All burning will comply with the State of Oregon's Smoke Management Implementation Plan and, for greater specificity, see the memorandum of understanding mentioned above.

***Energy Requirements and Conservation Potential*** – Some form of energy would be necessary for proposed projects requiring use of mechanized equipment: Projects such as road reconstruction and maintenance, and rehabilitation of the Santiam Wagon Road could require heavy machinery for a small amount of time. These possibilities would result in minor energy consumption.



***Prime Farmland, Rangeland, and Forestland*** – No prime farmland, rangeland, or forestland occurs within the analysis area.

***Unavoidable Adverse Effects*** – Implementation of any of the alternatives, including the No Action alternative, would inevitably result in some adverse environmental effects. The severity of the effects would be minimized by adhering to the direction in the management prescriptions and Standards and Guidelines in Chapter IV of the Willamette Forest Plan, and additional Mitigation Measures and Design Measures proposed in Chapter 2 of this document. These adverse environmental effects are discussed at length under each resource section.

***Irreversible and Irretrievable Effects*** – “Irreversible” commitment of resources refers to a loss of future options with nonrenewable resources. An “Irretrievable” commitment of resources refers to loss of opportunity due to a particular choice of resource uses.

Mitigation Measures and Design criteria and the Santiam Wagon Road and Santiam Wagon Road Special Interest Area Historic Property Management Plan, along with Forest Plan Standards and Guidelines are designed to avoid or minimize the potential for irreversible losses of heritage resources from the proposed management actions.

No new construction of permanent roads is planned. Some new trails would be created from the existing user-created tracks that currently exist. Staging areas would be created, which involve changes in the natural appearance of the landscape. Rock used to surface roads would be an irreversible commitment of mineral resources. Best Management Practices are designed to avoid or minimize the potential for irreversible losses from the proposed management actions.

Concerning threatened and endangered plant, wildlife, and fish species, a determination has been made that the proposed actions will not result in irreversible or irretrievable commitment of resources that foreclose formulation or implementation of reasonable or prudent alternatives.

**With Alternative 1 (No Action):** With the no action alternative, effects to Santiam Wagon Road surface by continued OHV use may result in irreversible changes to the historic integrity of the road.

**With all Action Alternatives (2, 3, and 4):** Tree removal to create staging areas may result in an irretrievable loss of the value of removed trees for some wildlife habitat, and relating to soil resource productivity. Staging areas could result in irreversible changes in the natural appearance of the landscape.

## Glossary

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Unless otherwise indicated, these terms are taken from Forest Service Regulations at 36 CFR 212.

**ATV, (All terrain Vehicle)** – Oregon Statutes consider all vehicles intended for off-highway use to be All-terrain Vehicles. They are broken into three classes:

**Class I ATV** – (quads, 3-wheelers)

- Vehicles 50 inches wide or less, and
- Dry weight of 800 pounds or less, and
- Has a saddle or seat
- Travels on 3 or more tires

**Class II ATV** – (jeeps, sand rails, SUVs, pickups etc.)

- Vehicles wider than 50 inches and
- Dry weight more than 800 pounds

**Class III ATV** – (motorcycles)

- Vehicles on two tires
- Dry Weight Less than 800 pounds

**Decommissioned** – A road that has been stabilized to a more natural state.

**Forest Road** – A motor vehicle road over 50 inches, wholly or partly within or adjacent to and serving a part of the National Forest System and which has been included in the Forest Transportation System Plan or Atlas.

**Forest Trail** – A less than 50 inch travel trail wholly or partly within or adjacent to and serving a part of the National Forest System and which has been included in the Forest Transportation System Plan or Atlas.

**Highway** – Any public way, road, street, thoroughfare, place, bridge, viaduct, open, used/intended for use of general public for vehicular traffic.

**Highway Legal Vehicles** – Any motor vehicle equipped registered and licensed to operate on a public highway within the State.

**Key Forest Road** – Roads that are that are the most traveled to sites within the Forest. They will provide the majority of forest visitors, administrative, commercial, research, and other travel needs. These roads will be identified as the key roads to important destination points and provide a network of vital inter-forest connections. They lead Recreationists, resource managers, permittees, landowners, commercial users, and emergency services along direct routes into and across necessary areas of the Forest (USDA Forest Service. 1998. Willamette Roads Analysis).

**Motor or Motorized Vehicle** – Any vehicle which is self-propelled or any vehicle which is propelled by electric power obtained from batteries.

**Motorized Mixed Use** – A Forest Road for use by both highway legal vehicles and any non-highway legal vehicle or ATV Class I, II, III, vehicles.

**OHV, (Off Highway Vehicle)** – Term used to describe all vehicles designed for off-road use and classified in Oregon as; ATV Class I, II, or III.

**ORV, (Off Road Vehicle)** – Term used to describe any motor vehicle designed for or capable of cross-country travel on or immediately over land, water, sand, snow, ice, marsh, swampland or other natural terrain.

**Operation Permit** – Sticker placed on an OHV that allows access to public lands in designated areas.

**User-Created Track** – A track or route of exposed soil created by any motorized vehicle and is not included in the Forest Transportation Plan or Atlas (a term used for this project only).

**Vehicle** – Any device in, upon, or by which any person or property is or may be transported, including any frame, chassis, or body of any motor vehicle.

#### **Definitions Used on Alternative Maps (Figures 7 through 9).**

**Forest Roads Open to Motorized Mixed-Use** – A Forest Road open to both highway legal vehicles and sticker permitted, ATV Class I, II, III vehicles.

**Forest Roads Open to Highway Legal Vehicles** – A Forest Road open only to vehicles equipped, registered, and licensed to operate on public highways.

**Forest Roads Open to ATV Class I and III** – A Forest Road open only to sticker permitted, ATV Class I and III vehicles. Administrative and emergency vehicle use permitted.

**Forest Roads Closed to all Motorized Use** – A Forest Road closed to both highway legal vehicles and sticker permitted, ATV Class I, II, III vehicles. Administrative and emergency vehicle use permitted.

**Forest Road Closed to Highway Legal Vehicles and ATV Class II Vehicles** – A Forest Road closed to both highway legal and ATV Class II vehicles. Administrative and emergency vehicle use permitted.

**User Created Tracks** – A track or route of exposed soil, created by any motorized vehicle.

**Proposed Forest Motorized Trail** – Construction of a 50-inch or less motorized trail, open only to ATV Class I and III vehicles.

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## Chapter 4. Consultation and Coordination

The Forest Service sent scoping letters to Federal, State, and local agencies; with tribal organizations; and individuals known to have an interest in similar projects during the development of this EA, as discussed in the Public Involvement section in Chapter 1. In addition, other State and Federal agencies, tribal governments have been consulted with in preparation of this analysis. On February 3, 2005 the scoping letter was mailed to following:

### Federal, State, and Local Agencies:

- Oregon Department of Fish and Wildlife
- Ian Caldwell, ATV Coord. Oregon Dept. of Park and Recreation
- Nancy Gilbert, USDI Fish and Wildlife Service
- Dennis Zuhlke, Linn County Sheriff's Office

### Tribal Governments:

- Fara Ann Currim, Confederated Tribes of Warm Springs
- Allen Foreman, The Klamath Tribe
- Cheryle Kennedy, Confederated Tribes of the Grande Ronde
- Delores Pigsley, Confederated Tribes of the Siletz
- Olney Patt Jr., Confederated Tribes of Warm Springs
- Gerald Skelton, The Klamath Tribe
- Richard Spray, Oregon Historic Trails Advisory Council

### Organizations and Individuals:

- Archaeological Society of Central Oregon
- Black Butte Ranch
- Camp Caldera

- Camp Davidson
- Cascade Motor Sports
- Central Oregon Flyfishers
- Central Oregon Trail Alliance
- Cogwild Bicycle Tours
- Collins Cycle Shop
- Cycle Sports
- Deschutes County Historical Society
- Eurosport Inc
- Hoodoo Family Recreation Inc.
- Hutches Bicycles
- IMBA
- Obsidians
- Outdoor Power Equipment
- Pacific Crest Trail Association
- Paul's Bicycle Way of Life
- McKenzie River Chamber of Commerce
- Mt. Jefferson Snowmobile Club
- ONRC (Oregon Wild)
- Oregon Hunters Association
- Quest of the West Snowmobile Guide Service
- Raven Off-Road
- Sage's Dirt and Street
- Smucker ATV Sales
- Don Allen, Sand Mountain Society
- Jim Anderson

- 
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  - Tim Lillebo, ONRC (Oregon Wild)
  - Virgil LeBlanc, Sisters Sno-Go-Fers
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  - L. F. MacNeill
  - Blake & Cleo Matson
  - Pete, BB & Katherine McKearnan
  - Jan & Stephen Miller
  - Joni Mogstad, Blue Ribbon Coalition
  - Marty Olson
  - Daniel and Jane Petke, Suttle Lake Methodist Camp
  - Donna Pickens
  - Bryan Piper, The Mule Deer Foundation
  - Larry Runk, Oregon ATV Committee
  - Melissa Rymon
  - Anna Sampson
  - Mark Schumaker, OSSA
  - Tyler Silver, Camp Tamarack
  - Jeff Sims, CATS
  - William Sullivan, Navillus Press
  - Gary Tewalt
  - Monte Torkelsen, Big Lake Youth Camp
  - Champ C. Vaughn, Oregon Geographic Names Board
  - David & Janet Veach
  - Caleb Veach
  - Jim Versteeg, Native Plant Society of Oregon
  - Dave Wassom
  - Art Waugh, PNW 4-Wheel Drive Association
  - Dewayne Weaver
  - Conrad Weiler
  - Kristen West, Northwest Environmental Defense Council
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- Bob & Jean Anne White, Oregon  
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- Travis Wilson
- Richard & Judy Young
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## **Appendices**

**Appendix A – Transportation System Analysis Tables**

**Appendix B – SHPO Consultation Documents**

**Appendix C – Biological Evaluation, Botany**

**Appendix D – Biological Evaluation, Fisheries**

**Appendix E – Biological Evaluation, Wildlife**



## **Appendix A –Transportation System Analysis**



**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 2**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2600822	Road	0.09	2	1	No	Administrative use only	0.09
2600823	Road	0.40				Administrative use only	0.40
2600830	Road	1.70	2	2	Yes	Open to mixed use	1.70
2600831	Road	0.23	2	2	No	Administrative use only	0.23
2600832	Road	0.20	2	1	No	Administrative use only	0.20
2600833	Road	0.64	2	1	No	Open to mixed use	0.64
2600851	Road	0.27	2	1	No	CV	0.17
2600851	Road		2	1	No	Administrative use only	0.10
2600852	Road	0.23	2	1	No	Decommission	0.23
2600890	Road	3.14	2	2	Yes	Open to mixed use	3.14
2600892	Road	0.64	2	2	No	Open to mixed use	0.64
2600894	Road	0.12			No	Administrative use only	0.12
2676000	Road	2.61	2	2	Yes	Open to mixed use	2.61
2676723	Road	2.48	2	2	No	Open to mixed use	2.48
2676724	Road	0.62	2	2	No	Open to mixed use	0.62
2676725	Road	0.61	2	2	No	Open to mixed use	0.61
2676726	Road	0.17	2	2	No	Administrative use only	0.17
2676866	Road	1.84	2	2	Yes	Open to mixed use	1.84
2690000	Road	3.92	5	5	Yes	Highway legal	3.92
2690799	Road	0.05			No	Administrative use only	0.05
2690800	Road	0.19	2	1	No	Administrative use only	0.19
2690801	Road	0.80	2	2	Yes	Highway legal	0.25
2690801	Road		2	2	No	Decommission	0.55
2690802	Road	0.16	2	1	No	Decommission	0.16
2690803	Road	0.62	2	1	No	Administrative use only	0.62
2690805	Road	0.51	5	5	Yes	Highway legal	0.51
2690806	Road	1.69	2	2	Yes	Administrative use only	1.69
2690808	Road	0.73	2	2	Yes	Administrative use only	0.73
2690809	Road	0.14	2	1	No	Administrative use only	0.14
2690810	Road	4.59	2	2	Yes	Open to mixed use	4.59
2690811	Road	1.18	3	3	Yes	Open to mixed use	0.40
2690811	Road		2	2	Yes	Open to mixed use	0.78
2690813	Road	0.10	2	1	No	Decommission	0.10
2690814	Road	2.63	2	1	No	Open to mixed use	1.33
2690814	Road		2	1	No	Administrative use only	1.30
2690815	Road	0.84	5	5	Yes	Highway legal	0.84
2690816	Road	0.6	2	1	No	Administrative use only	0.60
2690818	Road	2.21	2	2	No	Open to mixed use	1.58
2690818	Road		2	2	No	Decommission	0.46
2690818	Road		2	2	No	CV	0.17
2690819	Road	0.25	2	1	No	Open to mixed use	0.25
2690820	Road	0.97	2	2	No	Administrative use only	0.75
2690820	Road		2	2	No	CV	0.22

**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 2**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2690821	Road	0.31	2	1	No	CV	0.17
2690821	Road		2	1	No	Decommission	0.14
2690822	Road	0.15	2	1	No	CV	0.15
2690823	Road	0.18	4	4	No	Highway legal	0.18
2690824	Road	0.08	2	1	No	Highway legal	0.08
2690825	Road	0.07			No	Highway legal	0.07
2690826	Road	0.95	2	1	No	Open to mixed use	0.95
2690827	Road	0.11	2	1	No	Administrative use only	0.11
2690828	Road	0.15	2	1	No	Administrative use only	0.15
2690829	Road	0.21	2	1	No	Administrative use only	0.21
2690830	Road	0.25	2	1	No	CV	0.25
2690831	Road	0.21	2	1	No	CV	0.21
2690832	Road	0.26	2	1	No	Open to mixed use	0.26
2690833	Road	0.07	2	1	No	Administrative use only	0.07
2690834	Road	0.02			No	Highway legal	0.02
2690842	Road	0.25	2	1	No	Decommission	0.07
2690842	Road		2	1	No	CV	0.18
2690843	Road	0.55	2	1	No	CV	0.55
2690844	Road	0.10	2	1	No	Decommission	0.10
2690845	Road	1.15	2	1	No	Open to mixed use	1.15
2690846	Road	0.15	2	1	No	Decommission	0.08
2690846	Road		2	1	No	CV	0.07
2690847	Road	0.14	2	1	No	CV	0.14
2690848	Road	0.47	2	2	No	Decommission	0.20
2690848	Road		2	2	No	CV	0.27
2690849	Road	0.33	2	1	No	CV	0.15
2690849	Road		2	1	No	Decommission	0.18
2690852	Road	0.15	1	1	No	Decommission	0.15
2690853	Road	0.07	2	1	No	Decommission	0.07
2690854	Road	0.10	2	1	No	Administrative use only	0.10
2690855	Road	0.24	1	1	No	Decommission	0.24
2690856	Road	0.11	2	1	No	CV	0.11
2690857	Road	0.29	2	1	No	CV	0.29
2690858	Road	0.12	2	1	No	CV	0.12
2690860	Road	3.02	2	2	No	Open to mixed use	3.02
2690861	Road	0.27	2	1	No	CV	0.27
2690862	Road	0.45	2	2	No	Open to mixed use	0.45
2690863	Road	0.66	2	2	No	CV	0.66
2690864	Road	0.48	2	1	No	CV	0.48
2690865	Road	0.14	2	1	No	Administrative use only	0.14
2690866	Road	0.10	2	1	No	CV	0.10
2690867	Road	0.08	2	1	No	Decommission	0.08
2690868	Road	0.39	2	1	No	Decommission	0.16
2690868	Road		2	1	No	CV	0.23
2690869	Road	0.69	2	1	No	Open to mixed use	0.69
2690870	Road	0.08	2	1	No	Decommission	0.08
2690875	Road	0.69	2	2	No	Open to mixed use	0.69
2690880	Road	1.43	2	2	No	Open to mixed use	1.43



**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 2**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2690881	Road	0.53	2	1	No	CV	0.53
2690882	Road	0.19	2	1	No	Decommission	0.19
2690883	Road	0.27	2	2	No	CV	0.27
2690887	Road	0.26	2	1	No	Decommission	0.26
2690890	Road	3.53	2	2	No	Open to mixed use	2.64
2690890	Road		1	1	No	Decommission	0.89
2690891	Road	0.32	2	1	No	Open to mixed use	0.18
2690891	Road		2	1	No	Decommission	0.14
2690892	Road	0.22	2	2	Yes	Open to mixed use	0.22
2690893	Road	0.27	2	2	No	Open to mixed use	0.27
2690894	Road	0.31	2	2	No	Decommission	0.31
2690895	Road	0.30	2	2	No	CV	0.30
2690896	Road	0.28	2	2	No	CV	0.28
2690897	Road	0.09	2	1	No	Decommission	0.09
2690902	Road	0.73	3	3	Yes	Administrative use only	0.73
2690904	Road	0.23	2	2	Yes	Open to mixed use	0.23
2690906	Road	0.05			No	Administrative use only	0.05
2690907	Road	0.27	2	2	No	Decommission	0.27
2690910	Road	1.20	2	2	No	Administrative use only	0.23
2690910	Road		2	2	No	Open to mixed use	0.70
2690910	Road		2	2	No	Highway legal	0.27
2690911	Road	0.22	2	1	No	CV	0.22
2690915	Road	0.20	2	2	No	Decommission	0.20
2690916	Road	0.32	2	1	No	Decommission	0.32
2690920	Road	1.47	2	1	No	Open to mixed use	0.97
2690920	Road		2	1	No	CV	0.36
2690920	Road		2	1	No	Decommission	0.14
2690928	Road	0.21	2	1	No	CV	0.21
2690940	Road	0.61	2	2	No	Open to mixed use	0.61
2690942	Road	0.15	2	1	No	Decommission	0.15
2690950	Road	0.54	2	2	No	Open to mixed use	0.08
2690950	Road		2	2	No	Decommission	0.46
2690951	Road	0.34	2	1	No	Decommission	0.34
2690953	Road	0.23	2	2	No	Decommission	0.23
2690960	Road	1.01	3	3	Yes	Highway legal	1.01
<b>Road Totals</b>							
<b>Designation</b>		<b>Miles</b>					
Highway Legal		7.15					
Mixed Use		37.75					
Administrative use		9.17					
CV = Convert to motorized trail		7.13					
Decommission		7.04					
Total miles		68.24					

**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 3**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2600822	Road	0.09	2	1	No	Administrative use only	0.09
2600823	Road	0.40				Administrative use only	0.40
2600830	Road	1.70	2	2	Yes	Open to mixed use	1.70
2600831	Road	0.23	2	2	No	Administrative use only	0.23
2600832	Road	0.20	2	1	No	Administrative use only	0.20
2600833	Road	0.64	2	1	No	Open to mixed use	0.64
2600851	Road	0.27	2	1	No	CV	0.17
2600851	Road		2	1	No	Decommission	0.10
2600852	Road	0.23	2	1	No	Decommission	0.23
2600890	Road	3.14	2	2	Yes	Open to mixed use	2.69
2600890	Road		2	2	Yes	Open to Class I & III	0.28
2600890	Road		2	2	Yes	Administrative use only	0.17
2600892	Road	0.64	2	2	No	Open to mixed use	0.64
2600894	Road	0.12			No	Administrative use only	0.12
2676000	Road	2.61	2	2	Yes	Open to mixed use	2.61
2676723	Road	2.48	2	2	No	Open to mixed use	2.48
2676724	Road	0.62	2	2	No	Open to mixed use	0.62
2676725	Road	0.61	2	2	No	Open to mixed use	0.61
2676726	Road	0.17	2	2	No	Administrative use only	0.17
2676866	Road	1.84	2	2	Yes	Administrative use only	1.84
2690000	Road	3.92	5	5	Yes	Highway legal	3.92
2690799	Road	0.05			No	Administrative use only	0.05
2690800	Road	0.19	2	1	No	Administrative use only	0.19
2690801	Road	0.80	2	2	Yes	Highway legal	0.25
2690801	Road		2	2	No	Decommission	0.55
2690802	Road	0.16	2	1	No	Decommission	0.16
2690803	Road	0.62	2	1	No	Administrative use only	0.62
2690805	Road	0.51	5	5	Yes	Highway legal	0.51
2690806	Road	1.69	2	2	Yes	Administrative use only	1.69
2690808	Road	0.73	2	2	Yes	Administrative use only	0.73
2690809	Road	0.14	2	1	No	Administrative use only	0.14
2690810	Road	4.59	2	2	Yes	Open to mixed use	2.58
2690810	Road		2	2	Yes	Administrative use only	2.01
2690811	Road	1.18	3	3	Yes	Open to mixed use	0.40
2690811	Road		2	2	Yes	Open to mixed use	0.78
2690813	Road	0.10	2	1	No	Decommission	0.10
2690814	Road	2.63	2	1	No	Open to mixed use	1.33
2690814	Road		2	1	No	Administrative use only	1.30
2690815	Road	0.84	5	5	Yes	Highway legal	0.84
2690816	Road	0.60	2	1	No	Administrative use only	0.60
2690818	Road	2.21	2	2	No	Open to mixed use	1.58
2690818	Road		2	2	No	CV	0.17
2690818	Road		2	2	No	Decommission	0.46

**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 3**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2690819	Road	0.25	2	1	No	Open to mixed use	0.25
2690820	Road	0.97	2	2	No	Administrative use only	0.10
2690820	Road		2	2	No	CV	0.87
2690821	Road	0.31	2	1	No	CV	0.17
2690821	Road		2	1	No	Decommission	0.14
2690822	Road	0.15	2	1	No	CV	0.15
2690823	Road	0.18	4	4	No	Highway legal	0.18
2690824	Road	0.08	2	1	No	Highway legal	0.08
2690825	Road	0.07			No	Highway legal	0.07
2690826	Road	0.95	2	1	No	Open to mixed use	0.95
2690827	Road	0.11	2	1	No	CV	0.11
2690828	Road	0.15	2	1	No	Administrative use only	0.15
2690829	Road	0.21	2	1	No	Administrative use only	0.21
2690830	Road	0.25	2	1	No	CV	0.25
2690831	Road	0.21	2	1	No	CV	0.21
2690832	Road	0.26	2	1	No	Open to mixed use	0.26
2690833	Road	0.07	2	1	No	Administrative use only	0.07
2690834	Road	0.02			No	Highway legal	0.02
2690842	Road	0.25	2	1	No	Decommission	0.07
2690842	Road		2	1	No	CV	0.18
2690843	Road	0.55	2	1	No	CV	0.55
2690844	Road	0.10	2	1	No	Decommission	0.10
2690845	Road	1.15	2	1	No	Open to mixed use	1.15
2690846	Road	0.15	2	1	No	Decommission	0.08
2690846	Road		2	1	No	CV	0.07
2690847	Road	0.14	2	1	No	CV	0.14
2690848	Road	0.47	2	2	No	CV	0.47
2690849	Road	0.33	2	1	No	CV	0.15
2690849	Road		2	1	No	Decommission	0.18
2690852	Road	0.15	1	1	No	Decommission	0.15
2690853	Road	0.07	2	1	No	Decommission	0.07
2690854	Road	0.10	2	1	No	Decommission	0.10
2690855	Road	0.24	1	1	No	Decommission	0.24
2690856	Road	0.11	2	1	No	CV	0.11
2690857	Road	0.29	2	1	No	CV	0.29
2690858	Road	0.12	2	1	No	CV	0.12
2690860	Road	3.02	2	2	No	Open to mixed use	3.02
2690861	Road	0.27	2	1	No	CV	0.27
2690862	Road	0.45	2	2	No	Open to mixed use	0.45
2690863	Road	0.66	2	2	No	CV	0.66
2690864	Road	0.48	2	1	No	CV	0.48
2690865	Road	0.14	2	1	No	Administrative use only	0.14
2690866	Road	0.10	2	1	No	CV	0.10
2690867	Road	0.08	2	1	No	Decommission	0.08
2690868	Road	0.39	2	1	No	Decommission	0.16
2690868	Road		2	1	No	CV	0.23
2690869	Road	0.69	2	1	No	Decommission	0.28

**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 3**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2690869	Road		2	1	No	CV	0.41
2690870	Road	0.08	2	1	No	Decommission	0.08
2690875	Road	0.69	2	2	No	Open to mixed use	0.69
2690880	Road	1.43	2	2	No	Open to mixed use	1.43
2690881	Road	0.53	2	1	No	CV	0.53
2690882	Road	0.19	2	1	No	Decommission	0.19
2690883	Road	0.27	2	2	No	CV	0.27
2690887	Road	0.26	2	1	No	Decommission	0.26
2690890	Road	3.53	2	2	No	Open to mixed use	2.64
2690890	Road		1	1	No	Decommission	0.89
2690891	Road	0.32	2	1	No	Open to mixed use	0.18
2690891	Road		2	1	No	Decommission	0.14
2690892	Road	0.22	2	2	Yes	Open to mixed use	0.22
2690893	Road	0.27	2	2	No	Open to mixed use	0.27
2690894	Road	0.31	2	2	No	Decommission	0.31
2690895	Road	0.30	2	2	No	CV	0.30
2690896	Road	0.28	2	2	No	CV	0.28
2690897	Road	0.09	2	1	No	Decommission	0.09
2690902	Road	0.73	3	3	Yes	Highway legal	0.73
2690904	Road	0.23	2	2	Yes	CV	0.23
2690906	Road	0.05			No	Administrative use only	0.05
2690907	Road	0.27	2	2	No	Decommission	0.27
2690910	Road	1.20	2	2	No	Administrative use only	0.20
2690910	Road		2	2	No	CV	1.00
2690911	Road	0.22	2	1	No	CV	0.22
2690915	Road	0.20	2	2	No	Decommission	0.20
2690916	Road	0.32	2	1	No	Decommission	0.32
2690920	Road	1.47	2	1	No	CV	1.37
2690920	Road		2	1	No	Decommission	0.10
2690928	Road	0.21	2	1	No	CV	0.21
2690940	Road	0.61	2	2	No	CV	0.61
2690942	Road	0.15	2	1	No	Decommission	0.15
2690950	Road	0.54	2	2	No	CV	0.08
2690950	Road		2	2	No	Decommission	0.46
2690951	Road	0.34	2	1	No	Decommission	0.34
2690953	Road	0.23	2	2	No	Decommission	0.23
2690960	Road	1.01	3	3	Yes	Highway legal	1.01

**Road Totals**

Designation	Miles
<b>Highway Legal</b>	<b>7.61</b>
<b>Mixed Use</b>	<b>30.17</b>
<b>Administrative use</b>	<b>11.47</b>
<b>Open to Class I &amp; III</b>	<b>0.28</b>
<b>CV = Convert to motorized trail</b>	<b>11.43</b>
<b>Decommission</b>	<b>7.28</b>
<b>Total miles</b>	<b>68.24</b>

**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 4**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2600822	Road	0.09	2	1	No	Administrative use only	0.09
2600823	Road	0.40				Administrative use only	0.40
2600830	Road	1.70	2	2	Yes	Open to mixed use	1.70
2600831	Road	0.23	2	2	No	Administrative use only	0.23
2600832	Road	0.20	2	1	No	Administrative use only	0.20
2600833	Road	0.64	2	1	No	Open to mixed use	0.64
2600851	Road	0.27	2	1	No	CV	0.17
2600851	Road		2	1	No	Administrative use only	0.10
2600852	Road	0.23	2	1	No	Administrative use only	0.23
2600890	Road	3.14	2	2	Yes	Open to mixed use	2.69
2600890	Road		2	2	Yes	Open to Class I & III	0.28
2600890	Road		2	2	Yes	Administrative use only	0.17
2600892	Road	0.64	2	2	No	Open to mixed use	0.64
2600894	Road	0.12			No	Administrative use only	0.12
2676000	Road	2.61	2	2	Yes	Open to mixed use	2.61
2676723	Road	2.48	2	2	No	Open to mixed use	2.48
2676724	Road	0.62	2	2	No	Open to mixed use	0.62
2676725	Road	0.61	2	2	No	Open to mixed use	0.61
2676726	Road	0.17	2	2	No	Administrative use only	0.17
2676866	Road	1.84	2	2	Yes	Administrative use only	1.84
2690000	Road	3.92	5	5	Yes	Highway legal	3.92
2690799	Road	0.05			No	Administrative use only	0.05
2690800	Road	0.19	2	1	No	Administrative use only	0.19
2690801	Road	0.80	2	2	Yes	Highway legal	0.25
2690801	Road		2	2	No	Decommission	0.55
2690802	Road	0.16	2	1	No	Decommission	0.16
2690803	Road	0.62	2	1	No	Administrative use only	0.62
2690805	Road	0.51	5	5	Yes	Highway legal	0.51
2690806	Road	1.69	2	2	Yes	Administrative use only	1.69
2690808	Road	0.73	2	2	Yes	Administrative use only	0.73
2690809	Road	0.14	2	1	No	Administrative use only	0.14
2690810	Road	4.59	2	2	Yes	Highway legal	4.59
2690811	Road	1.18	3	3	Yes	Highway legal	0.40
2690811	Road		2	2	Yes	Highway legal	0.78
2690813	Road	0.10	2	1	No	Decommission	0.10
2690814	Road	2.63	2	1	No	Open to mixed use	1.33
2690814	Road		2	1	No	Administrative use only	1.30
2690815	Road	0.84	5	5	Yes	Highway legal	0.84
2690816	Road	0.6	2	1	No	Administrative use only	0.60
2690818	Road	2.21	2	2	No	Open to mixed use	1.58
2690818	Road		2	2	No	CV	0.17
2690818	Road		2	2	No	Decommission	0.46
2690819	Road	0.25	2	1	No	Open to mixed use	0.25

**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 4**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2690820	Road	0.97	2	2	No	CV	0.97
2690821	Road	0.31	2	1	No	CV	0.17
2690821	Road		2	1	No	Decommission	0.14
2690822	Road	0.15	2	1	No	CV	0.15
2690823	Road	0.18	4	4	No	Highway legal	0.18
2690824	Road	0.08	2	1	No	Highway legal	0.08
2690825	Road	0.07			No	Highway legal	0.07
2690826	Road	0.95	2	1	No	Open to mixed use	0.95
2690827	Road	0.11	2	1	No	CV	0.11
2690828	Road	0.15	2	1	No	Administrative use only	0.15
2690829	Road	0.21	2	1	No	Administrative use only	0.21
2690830	Road	0.25	2	1	No	CV	0.25
2690831	Road	0.21	2	1	No	CV	0.21
2690832	Road	0.26	2	1	No	Open to mixed use	0.26
2690833	Road	0.07	2	1	No	Administrative use only	0.07
2690834	Road	0.02			No	Highway legal	0.02
2690842	Road	0.25	2	1	No	Decommission	0.07
2690842	Road		2	1	No	CV	0.18
2690843	Road	0.55	2	1	No	CV	0.55
2690844	Road	0.10	2	1	No	Decommission	0.10
2690845	Road	1.15	2	1	No	Open to mixed use	1.15
2690846	Road	0.15	2	1	No	Decommission	0.08
2690846	Road		2	1	No	CV	0.07
2690847	Road	0.14	2	1	No	CV	0.14
2690848	Road	0.47	2	2	No	CV	0.47
2690849	Road	0.33	2	1	No	CV	0.15
2690849	Road		2	1	No	Decommission	0.18
2690852	Road	0.15	1	1	No	Decommission	0.15
2690853	Road	0.07	2	1	No	Decommission	0.07
2690854	Road	0.10	2	1	No	Decommission	0.10
2690855	Road	0.24	1	1	No	Decommission	0.24
2690856	Road	0.11	2	1	No	CV	0.11
2690857	Road	0.29	2	1	No	CV	0.29
2690858	Road	0.12	2	1	No	CV	0.12
2690860	Road	3.02	2	2	No	Open to mixed use	2.35
2690860	Road		2	2	No	CV	0.16
2690860	Road		2	2	No	Decommission	0.51
2690861	Road	0.27	2	1	No	CV	0.27
2690862	Road	0.45	2	2	No	CV	0.27
2690862	Road		2	2	No	Decommission	0.18
2690863	Road	0.66	2	2	No	CV	0.66
2690864	Road	0.48	2	1	No	CV	0.48
2690865	Road	0.14	2	1	No	Administrative use only	0.14
2690866	Road	0.10	2	1	No	CV	0.10
2690867	Road	0.08	2	1	No	Decommission	0.08
2690868	Road	0.39	2	1	No	Decommission	0.16
2690868	Road		2	1	No	CV	0.23
2690869	Road	0.69	2	1	No	CV	0.42

**Santiam Pass Summer Motorized Recreation Project  
Transportation System Analysis  
Alternative 4**

Kenny gabriel

August 8th 2007

Route Number	Route Type	Route Length	Oper Maint Level	Objective Maint level	Key Forest RD	Proposed Road Use	Miles Affected
2690869	Road		2	1	No	Decommission	0.27
2690870	Road	0.08	2	1	No	Decommission	0.08
2690875	Road	0.69	2	2	No	Decommission	0.28
2690875	Road		2	2	No	CV	0.41
2690880	Road	1.43	2	2	No	Decommission	1.43
2690881	Road	0.53	2	1	No	Decommission	0.53
2690882	Road	0.19	2	1	No	Decommission	0.19
2690883	Road	0.27	2	2	No	Decommission	0.27
2690887	Road	0.26	2	1	No	Decommission	0.26
2690890	Road	3.53	2	2	No	Administrative use only	2.64
2690890	Road		1	1	No	Decommission	0.89
2690891	Road	0.32	2	1	No	Open to mixed use	0.18
2690891	Road		2	1	No	Decommission	0.14
2690892	Road	0.22	2	2	Yes	Open to mixed use	0.22
2690893	Road	0.27	2	2	No	Decommission	0.27
2690894	Road	0.31	2	2	No	Decommission	0.31
2690895	Road	0.30	2	2	No	CV	0.30
2690896	Road	0.28	2	2	No	CV	0.28
2690897	Road	0.09	2	1	No	Decommission	0.09
2690902	Road	0.73	3	3	Yes	Administrative use only	0.73
2690904	Road	0.23	2	2	Yes	Open to mixed use	0.23
2690906	Road	0.05			No	Administrative use only	0.05
2690907	Road	0.27	2	2	No	Decommission	0.27
2690910	Road	1.20	2	2	No	CV	0.93
2690910	Road		2	2	No	Administrative use only	0.27
2690911	Road	0.22	2	1	No	CV	0.22
2690915	Road	0.20	2	2	No	Decommission	0.20
2690916	Road	0.32	2	1	No	Decommission	0.32
2690920	Road	1.47	2	1	No	CV	1.37
2690920	Road		2	1	No	Decommission	0.10
2690928	Road	0.21	2	1	No	CV	0.21
2690940	Road	0.61	2	2	No	CV	0.61
2690942	Road	0.15	2	1	No	CV	0.11
2690942	Road		2	1	No	Decommission	0.04
2690950	Road	0.54	2	2	No	Decommission	0.50
2690950	Road		2	2	No	CV	0.04
2690951	Road	0.34	2	1	No	CV	0.34
2690953	Road	0.23	2	2	No	Decommission	0.23
2690960	Road	1.01	3	3	Yes	Highway legal	1.01
<b>Road Totals</b>							
<b>Designation</b>		<b>Miles</b>					
Highway Legal		12.65					
Mixed Use		20.49					
Administrative use		13.13					
Open to Class I & III		0.28					
CV = Convert to motorized trail		11.69					
Decommission		10.00					
<b>Total miles</b>		<b>68.24</b>					





## **Appendix B – SHPO Consultation Documentation**





# Oregon

Theodore R. Kulongoski, Governor

## Parks and Recreation Department

State Historic Preservation Office

725 Summer St. NE, Suite C

Salem, OR 97301-1266

(503) 986-0707

FAX (503) 986-0793

[www.hcd.state.or.us](http://www.hcd.state.or.us)



Nature  
HISTORY  
Discovery

September 20, 2007

Ms. Cara Kelly  
USDA Forest Service Detroit Ranger District  
HC 73 Box 320  
Mill City, OR 97360

RE: SHPO Case No. 07-2160  
Santiam Wagon Road Motorized Recreation Project  
Willamette National Forest, McKenzie River Ranger District, Linn County

Dear Ms. Kelly:

We have reviewed the above-ground materials submitted on the project referenced above, and we concur with a determination of No Historic Properties Adversely Affected for this undertaking.

Our response here is to assist you with your responsibilities under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800). Please feel free to contact me if you have further questions, comments or need additional assistance.

Sincerely,

Sarah Jalving  
Historic Compliance Specialist  
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# Oregon

Theodore R. Kulongoski, Governor

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Nature  
HISTORY  
Discovery

11/23/2007

Ms. Cara Kelly  
USDA FS Detroit RD  
HC 73 Box 320  
Mill City, OR 97360

RE: SHPO Case No. 07-2160  
Santiam Wagon Road Motorized Recreation Proj  
Multiple legals, Willamette NF McKenzie R RD, Linn County

Dear Cara:

Our office recently received your report about the project referenced above. I have reviewed your report and agree that the project will have no adverse affect on any known cultural resources. No further archaeological research is needed with this project aside from the monitoring of sites and avoidance of other sites which is addressed in your report.

Please be aware, however, that if during development activities you or your staff encounters any cultural material (i.e., historic or prehistoric), all activities should cease immediately and an archaeologist should be contacted to evaluate the discovery. Under state law (ORS 358.905-955) it is a Class B misdemeanor to impact an archaeological site on public or private land in Oregon. Impacts to Native American graves and cultural items are considered a Class C felony (ORS 97.740-760). If you have any questions regarding any future discovery or my letter, feel free to contact our office at your convenience.

Dennis Griffin, Ph.D., RPA  
State Archaeologist  
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[dennis.griffin@state.or.us](mailto:dennis.griffin@state.or.us)



## **Appendix C – Biological Evaluation, Botany**







**File Code:** 2670 Plants  
**Route To:**

**Date:** September 24, 2007

**Subject:** Biological Evaluation-Santiam Pass Summer Recreation Project

**To:** Santiam Pass Summer Recreation Team Leader/Analysis Files

## I. Introduction

### **Purpose:**

The purpose of this Biological Evaluation is to review the Santiam Pass Summer Motorized Recreation Area project in sufficient detail as to determine whether the proposed action will result in a trend toward Federal listing of any sensitive botanical species.

Forest management activities that may impact populations or alter habitat for PETS (proposed, endangered, threatened, or sensitive) species require a Biological Evaluation (FSM 2671.44) to be completed. The Biological Evaluation process (FSM 2672.43) is used to assist in determining the possible effects the proposed management activities have on:

- A. Species listed or proposed to be listed as endangered (E) or threatened (T) by the U.S. Fish and Wildlife Service (FWS).
- B. Species listed as sensitive (S) by the USDA Forest Service, Region 6. There are 72 plants listed on the Regional Forester's Sensitive Botanical List that are documented or suspected to occur on the Willamette National Forest (Attachment 1).

### **Biological Evaluation Process:**

Under the suggested procedure for conducting a biological evaluation as described in a memo issued August 17, 1995 by the Regional Foresters of regions 1, 4, and 6, the Biological Evaluation is a 7 step process to evaluate possible effects to Proposed, Endangered, Threatened, and Sensitive (PETS) species. The seven steps are as follows:

1. Review of existing documented information.
2. Field reconnaissance of the project area.
3. Determination of effects of proposed actions on PETS species
4. Determination of irreversible or irretrievable commitment of resources (required for listed and proposed species only).
5. Determination of conclusions on effects
6. Recommendations for removing, avoiding, or compensating adverse effects
7. Documentation of consultation with other agencies, references, and contributors

Evaluation of effects for each species may be complete at the end of step #1 or may extend through step #5, depending on project details.



Steps 1, 2, and 5 from above are included in this document. The other steps are included in the Environmental Assessment, and will not be discussed in detail in this document.

## **II. Description of the Proposed Project**

### **Location:**

This project is located on the McKenzie River Ranger District, Willamette National Forest. The Legal location: T.13S, R.7E, T.13S, R.7 1/2E, T.14S, R.7 1/2E, and T.14S, R.7 1/2E; W.M.

### **Proposed Action:**

The District Ranger on the McKenzie River Ranger District proposes to implement actions in response to the needs for action. The Proposed Action, represented by Alternative 2 in the environmental assessment (EA), proposes to designate a system of Forest roads and trails for recreational OHV use along with other actions listed below. This proposal contains much the same set of actions that were described in the February 3, 2005 scoping letter.

Specific route locations and have changed during project development and refinement. The resulting action has a reduction in overall mileage for the road and trail network, it has a fewer number of dispersed camping sites, there are changes in the size and locations of staging areas, with these and other changes appearing on modified Alternative 2 mapping.

A detailed description of the proposed action is provided in Chapter 2 of the Environmental Assessment.

In addition to actions presented in the February 2005 scoping letter, Alternative 2 would also include two non-significant amendments to the Willamette Forest Plan, implemented through a Forest Order.

All alternatives propose the following actions:

- Designate road and trails for OHV use
- Designate and rehabilitate portions of the Santiam Wagon Road
- Develop staging areas
- Designate regulated camping zones
- Create a Kiddy Loop

### **III. Existing Environment**

#### **Sensitive Botanical Species:**

Current management direction mandates conservation of several categories of rare plants on the Willamette National Forest (Attachment 1). The Endangered Species Act mandates protection of federally listed Threatened and Endangered species. No federally listed Threatened and Endangered, or Proposed plants occur in the project area. Sensitive species are protected by USDA Forest Service regulations and manual direction (FSM 2672.4).

Prefield reviews are conducted to determine which species from the Regional Foresters 2007 Sensitive Species List for the Willamette National Forest are known from the project area or have suitable habitat present and potentially occur in the project area. Prefield review results show no known occurrences of sensitive botanical species within the project area. There is potential habitat for sensitive species in the project area (see Table 1).

#### **Survey Results:**

Surveys of the proposed project area for sensitive botanical species were conducted during August of 2005 and 2006. Survey results are found in Table 1. Three sensitive plants have potential to occur in the project area; *Gentiana newberryi*, and *Agoseris elata* are species associated with mesic meadow communities. *Botrychium pumicola* is a grapefern species suspected to occur on the Willamette National Forest. It is found in lodgepole pine forest on pumice substrates at high elevations above 7200 feet.

Most routes are existing ski trails, existing OHV routes, or skid roads with little to no need for vegetation removal. Other routes are through lodgepole pine forest, with volcanic, well-drained soils. Trees on these sites are scattered and the understory is sparsely vegetated with shrubs, some forbs, and grasses. Three routes pass through dry bunch-grass dominated meadows.

No sensitive botanical species were observed during these surveys.

Many Region 6 sensitive fungi are mycorrhizal, living in symbiosis with the roots of trees. The complex mycorrhizal relationships between fungi and trees are somewhat understood by experts and resource managers; however, locating the underground network of mycelia during project level pre-disturbance surveys is not exact. With the exception of *Bridgeoporus nobillissimus*, pre-disturbance surveys for all other listed fungi is impractical at this time. *Bridgeoporus* is a large conk found on large diameter noble fir stumps, snags, and infrequently, live trees above 3000 feet in elevation. There are no noble fir trees in the project area; therefore, no habitat for *Bridgeoporus* would be disturbed.

### **IV. Impacts of the Proposed Project**

#### **Direct and Indirect Impacts:**

Implementation of this project would have no direct or indirect effect on sensitive botanical species because no sensitive plants were located during surveys.

**Direct and Indirect Impacts to unknown fungi:**

This project involves habitat disturbance in terms of trail construction. Without knowing for certain the presence or absence of sensitive fungi deemed impractical for pre-disturbance surveys, it is assumed that there would be very localized direct impacts to the mycelial network by selecting any of the alternatives. The soils in the Santiam Pass Summer Recreation area are volcanic, well-drained, and nutrient-poor. The risk of negative impacts to listed fungi is low due to the lack of nutrient-rich organic material available for decomposition. Therefore, the likelihood of offering suitable habitat for other listed fungi is low.

The indirect impacts to fungi would be evident by increased soil compaction, which reduces pore space for root penetration and production of feeder rootlets where mycorrhizae form. The volcanic soils in the project area are readily displaced, thus not subject to the degree of compaction of other soil types found in the Western Cascades. Therefore, the risk of indirect soil compaction is low in the project area and would not lead to a trend toward federal listing of species.

**Cumulative Effects:**

The cumulative effects analysis area for the Santiam Pass Summer Motorized Recreation area is the entire project area. Past management activities in the last 50 years include road construction, road maintenance, fire suppression, salvage logging, construction of Hoodoo Ski Area, and other developed recreation areas. Included in these activities is the Fall 2007 Santiam Wagon Road maintenance work, involving heavy machinery. Because the equipment to implement this maintenance would need to meet timber sale contract provisions for cleanliness, there are no expected cumulative effects on sensitive plants from the road project. Implementing any of the action alternatives would have no additional cumulative effect on sensitive botanical species because no sensitive plant species were located in the project area during surveys.

**V. Determination**

It is my determination that selection of any alternative or combination of alternatives proposed would have “no impact” on sensitive botanical species.

For listed fungi, this project “may impact individuals or habitat, but would not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species”. The risk of adverse effects to listed fungi from implementation of this project is low because of soil productivity in the project area.

Prepared by: /s/ Burtchell Thomas                      Date: September 24, 2007  
Burtchell Thomas, Botanist  
McKenzie River Ranger District

Table 1: Summary of Potential Habitat and Presence for Sensitive Botanical Species

<b>Species</b>	<b>Prefield Review</b>	<b>Species Presence</b>
<i>Agoseris elata</i>	habitat present	No
<i>Arabis hastatula</i>	habitat not present	No
<i>Arnica viscosa</i>	habitat not present	No
<i>Asplenium septentrionale</i>	habitat not present	No
<i>Aster gormanii</i>	habitat not present	No
<i>Boletus pulcherrimus</i>	habitat not present	No
<i>Botrychium minganense</i>	habitat not present	No
<i>Botrychium montanum</i>	habitat not present	No
<i>Botrychium pumicola</i>	habitat present	No
<i>Bridgeoporus nobillissimus</i>	habitat not present	No
<i>Calamagrostis breweri</i>	habitat not present	No
<i>Carex livida</i>	habitat not present	No
<i>Carex scirpoidea</i> var. <i>stenochlaena</i>	habitat not present	No
<i>Castilleja rupicola</i>	habitat not present	No
<i>Chaenotheca subroscida</i>	habitat not present	No
<i>Cimicifuga elata</i>	habitat not present	No
<i>Coptis trifolia</i>	habitat not present	No
<i>Cordyceps capitata</i>	habitat not present	No
<i>Cortinarius barlowensis</i>	habitat not present	No
<i>Corydalis aqua-gelidae</i>	habitat not present	No
<i>Cudonia monticola</i>	habitat not present	No
<i>Dermatocarpon luridum</i>	habitat not present	No
<i>Eucephalis(Aster) vialis</i>	habitat not present	No
<i>Frasera umpquaensis</i>	habitat not present	No
<i>Gentiana newberryi</i>	habitat present	No
<i>Gomphus kaufmanii</i>	habitat not present	No
<i>Gyromitra californica</i>	habitat not present	No
<i>Hypogymnia duplicata</i>	habitat not present	No
<i>Iliamna latibracteata</i>	habitat not present	No
<i>Leptogium burnetiae</i> var. <i>hirsutum</i>	habitat not present	No
<i>Leptogium cyanescens</i>	habitat not present	No
<i>Leucogaster citrinus</i>	habitat not present	No
<i>Lewisia columbiana</i> var. <i>columbiana</i>	habitat not present	No
<i>Lobaria linita</i>	habitat not present	No
<i>Lupinus sulphureus</i> var. <i>kincaidii</i>	habitat not present	No
<i>Lycopodiella inundata</i>	habitat not present	No
<i>Lycopodium complanatum</i>	habitat not present	No

<i>Montia howellii</i>	habitat not present	No
<i>Mycenia monticola</i>	habitat not present	No
<i>Nephroma occultum</i>	habitat not present	No
<i>Ophioglossum pusillum</i>	habitat not present	No
<i>Pannaria rubiginosa</i>	habitat not present	No
<i>Pellaea andromedaefolia</i>	habitat not present	No
<i>Peltigera neckeri</i>	habitat not present	No
<i>Peltigera pacifica</i>	habitat not present	No
<i>Phaeocollybia attenuata</i>	habitat not present	No
<i>Phaeocollybia dissiliens</i>	habitat not present	No
<i>Phaeocollybia pseudofestiva</i>	habitat not present	No
<i>Phaeocollybia sipei</i>	habitat not present	No
<i>Pilophorus nigricaulis</i>	habitat not present	No
<i>Polystichum californicum</i>	habitat not present	No
<i>Potentilla villosa</i>	habitat not present	No
<i>Pseudocyphellaria mallota</i>	habitat not present	No
<i>Pseudocyphellaria rainierensis</i>	habitat not present	No
<i>Ramalina pollinaria</i>	habitat not present	No
<i>Ramaria amyloidea</i>	habitat not present	No
<i>Ramaria aurantiisiccescens</i>	habitat not present	No
<i>Ramaria gelatinaurantia</i>	habitat not present	No
<i>Ramaria largentii</i>	habitat not present	No
<i>Rhizomnium nudum</i>	habitat not present	No
<i>Romanzoffia thompsonii</i>	habitat not present	No
<i>Scheuchzeria palustris</i> <i>var. americana</i>	habitat not present	No
<i>Schistostega pennata</i>	habitat not present	No
<i>Scirpus subterminalis</i>	habitat not present	No
<i>Scouleria marginata</i>	habitat not present	No
<i>Sisyrrinchium sarmentosum</i>	habitat not present	No
<i>Sowerbyella rhenana</i>	habitat not present	No
<i>Tetraphis geniculata</i>	habitat not present	No
<i>Thorluna disimilis</i>	habitat not present	No
<i>Usnea longissima</i>	habitat not present	No
<i>Utricularia minor</i>	habitat not present	No
<i>Wolffia borealis</i>	habitat not present	No
<i>Wolffia columbiana</i>	habitat not present	No

ATTACHMENT 1: **Regional Forester's Sensitive Botanical Species List for the Willamette National Forest FY 2007.** Species of federal, state and local importance are included on the R-6 list.

<b>Species</b>	<b>Occurrence on WNF</b>	<b>ONHP Status</b>	<b>State Status</b>	<b>Federal Status</b>	<b>Habitat Types</b>
<i>Agoseris elata</i>	S	2			MM,DM
<i>Arabis hastatula</i>	D	1		SofC	RO
<i>Arnica viscosa</i>	S	2			RS
<i>Asplenium septentrionale</i>	S	2			RO
<i>Aster gormanii</i>	D	1			RS
<i>Boletus pulcherrimus</i>	D	1			CF
<i>Botrychium minganense</i>	D	2			RZ,CF
<i>Botrychium montanum</i>	D	2			RZ,CF
<i>Botrychium pumicola</i>	S	1	LT		HV
<i>Bridgeoporus nobilissimus</i>	D	1			CF
<i>Calamagrostis breweri</i>	D	2			MM,RZ
<i>Carex livida</i>	S	2			WM
<i>Carex scirpoidea</i>	D	2			RO
<i>var. stenochlaena</i>					
<i>Castilleja rupicola</i>	D	2			RO
<i>Chaenotheca subroscida</i>	D	3			CF
<i>Cimicifuga elata</i>	D	1	C		CF
<i>Coptis trifolia</i>	S	2			WM,CF
<i>Cordyceps capitata</i>	D	unlisted			CF
<i>Cortinarius barlowensis</i>	D				montane CF
<i>Corydalis aqua-gelidae</i>	D	1	C		RZ,CF
<i>Cudonia monticola</i>	D	not listed			CF
<i>Dermatocarpon luridum</i>	S	3			RZ on rock
<i>Eucephalis (Aster) vialis</i>	S	1	LT	SofC	CF
<i>Frasera umpquaensis</i>	D	1	C		MM
<i>Gentiana newberryi</i>	D	2			MM
<i>Gomphus kaufmanii</i>	D	3			CF
<i>Gyromitra californica</i>	D	2			CF
<i>Hypogymnia duplicata</i>	S	3			CF
<i>Iliamna latibracteata</i>	S	2			CF,RZ
<i>Leptogium burnetiae</i>					
<i>var. hirsutum</i>	S	3			CF
<i>Leptogium cyanescens</i>	D	3			CF
<i>Leucogaster citrinus</i>	D	3			CF
<i>Lewisia columbiana</i>	D	2			RS
<i>var. columbiana</i>					
<i>Lobaria linita</i>	D	2			RO
<i>Lupinus sulphureus</i>					
<i>var. kincaidii</i>	S	1	LT	LT	MM,DM
<i>Lycopodiella inundata</i>	D	2			WM
<i>Lycopodium complanatum</i>	D	2			CF

<b>Species</b>	<b>Occurrence on WNF</b>	<b>ONHP Status</b>	<b>State Status</b>	<b>Federal Status</b>	<b>Habitat Types</b>
<i>Montia howellii</i>	D	4	C		RZ
<i>Mycenia monticola</i>	D	not listed			CF
<i>Nephroma occultum</i>	D	4			CF
<i>Ophioglossum pusillum</i>	D	2			WM
<i>Pannaria rubiginosa</i>	D	2			CF
<i>Pellaea andromedaefolia</i>	S	2			RO
<i>Peltigera neckeri</i>	D	not listed			CF
<i>Peltigera pacifica</i>	D	not listed			CF
<i>Phaeocollybia attenuata</i>	D	4			CF
<i>P. dissiliens</i>	D	3			CF
<i>P. pseudofestiva</i>	D	3			CF
<i>P. sipei</i>	D	3			CF
<i>Pilophorus nigricaulis</i>	D	2			RO
<i>Polystichum californicum</i>	D	2			RO
<i>Potentilla villosa</i>	D	2			RS, RO
<i>Pseudocyphellaria mallota</i>	D				CF,RZ
<i>Pseudocyphellaria rainierensis</i>	D	4			CF,RZ
<i>Ramalina pollinaria</i>	D	2			CF, RZ
<i>Ramaria amyloidea</i>	D	2			CF
<i>R. aurantiisiccescens</i>	D	4			CF
<i>R. gelatiniaurantia</i>	D	3			CF
<i>R. largentii</i>	D	3			CF
<i>Rhizomnium nudum</i>	D	2			CF
<i>Romanzoffia thompsonii</i>	D	1			RS
<i>Scheuchzeria palustris var. americana</i>	D	2			WM
<i>Schistostega pennata</i>	D	2			CF
<i>Scirpus subterminalis</i>	D				WM
<i>Scouleria marginata</i>	S	3			RZ
<i>Sisyrrinchium sarmentosum</i>	S	1	C	SofC	MM,DM
<i>Sowerbyella rhenana</i>	D	3			CF
<i>Tetraphis geniculata</i>	S	2			CF
<i>Thorluna disimilis</i>	D	2			CF
<i>Usnea longissima</i>	D	3			CF,RZ
<i>Utricularia minor</i>	D	2			SW
<i>Wolffia borealis</i>	S	2			SW
<i>Wolffia columbiana</i>	S	2			SW



Occurrence on Willamette National Forest:

- S = Suspected
- D = Documented

Oregon Natural Heritage Program (ORNHP):

- 1 = Taxa threatened or endangered throughout range.
- 2 = Taxa threatened or endangered in Oregon but more common or stable elsewhere.
- 3 = Species for which more information is needed before status can be determined, but which may be threatened or endangered (Review).
- 4 = Species of concern not currently threatened or endangered (Watch).

Oregon State Status:

- LT = Threatened
- LE = Endangered
- C = Candidate

Federal Status: These plant species were originally published as CANDIDATE THREATENED (CT) in the Smithsonian Report, **Federal Register**, July 1, 1975, or as PROPOSED ENDANGERED (PE) in a later report, **Federal Register**, June 16, 1976. The latest **Federal Register** consulted was dated September 30, 1993. Updated listings appear periodically in the Notice of Review (USFWS); the status of several species is categorized as follows:

- LE = Listed as an Endangered Species
- LT = Listed as a Threatened Species
- PE = Proposed as an Endangered Species
- PT = Proposed as a Threatened Species
- C = Candidate for Listing as Threatened or Endangered
- Sof C = Species of Concern; taxa for which additional information is needed to support proposal to list under the ESA.

Habitat Types:

- |                                  |                            |
|----------------------------------|----------------------------|
| MM = Mesic meadows               | RS = Rocky slopes, scree   |
| WM = Wet meadows                 | RO = Rock outcrops, cliffs |
| DM = Dry meadows                 | DW = Dry open woods        |
| RZ = Riparian zones, floodplains | HV = High volcanic areas   |
| CF = Coniferous forest           | SW = Standing water        |

**ATTACHMENT 2: Field reconnaissance survey levels for determining presence potential for TES species.**

Level A:	Aerial photo interpretation and review of existing site records. Determination of the potential for a listed species to occur within the proposed project area. No field surveys completed.	
	Low potential:	Less than 40% potential for listed species inhabiting the project area.
	Moderate potential:	40-60% potential for a listed species inhabiting the proposed project area.
	High potential:	Greater than 60% potential for listed species inhabiting the proposed project area.
Level B:	Single entry survey of probable habitats. Areas are identified by photos and existing field knowledge. Field surveys are conducted during the season most favorable for species identification.	
	Low intensity:	Selected habitat surveys (approximately 5-10% of area) are conducted with a single entry for listed species inhabiting the proposed project area.
	Moderate intensity:	Selected habitat surveys (approximately 10-40% of area) are conducted with a single entry for listed species inhabiting the proposed project area.
	High intensity:	Selected habitat surveys (approximately 40-60% of area) are conducted with a single entry for listed species inhabiting the proposed project area.
Level C:	Multiple entry surveys are conducted for listed species likely to inhabit the proposed project area.	
	Low intensity:	Selected habitat surveys (approximately 5-10% of area) are conducted with repeated entries for listed species inhabiting the proposed project area.
	Moderate intensity:	Selected habitat surveys (approximately 10-60% of area) are conducted with

repeated entries for listed species  
inhabiting the proposed project area.

High intensity:

Selected habitat surveys (approximately  
60-80% of area) are conducted with  
repeated entries for listed species  
inhabiting the proposed project area.

ATTACHMENT 3:  
**Conclusions Of Effects For Use In Biological Evaluations and Assessments**  
**USDA Forest Service - Regions 1, 4, and 6**  
**August, 1995**

**Listed Species:**

1. No Effect

Occurs when a project or activity will not have any “effect”, on a listed species, or critical habitat.

2. May Affect - Likely to Adversely Affect (LAA)

If the determination in the biological assessment is that the project May Affect - Likely to Adversely Affect a listed species or critical habitat, formal consultation must be initiated (50 CFR 402.12). Formal consultation must be requested in writing through the Forest Supervisor (FSM 2670.44) to the appropriate FWS Field Supervisor, or NOAA Fisheries office.

3. May Affect - Not Likely to Adversely Affect (NLAA)

If it is determined in the biological assessment that there are “effects” to a listed species or critical habitat, but that those effects are not likely to adversely affect listed species or critical habitat, then written concurrence by the FWS or NOAA Fisheries is required to conclude informal consultation (50 CFR 402.13).

4. Beneficial Effect

Written concurrence is also required from the FWS or NOAA Fisheries if a beneficial effect determination is made.

Requests for written concurrence must be initiated in writing from the Forest Supervisor to the State Field Supervisor (FWS or NOAA).

**Proposed Species:**

Whenever serious adverse effects are predicted for a proposed species or proposed critical habitat, conferencing is required with the FWS or NOAA Fisheries.

1. No Effect

When there are “no effects” to proposed species, conferencing is not required with FWS or NOAA.

2. Not Likely to Jeopardize the Continued Existence of the Species or Result in Destruction or Adverse Modification of Proposed Critical Habitat

This conclusion is used where there are effects or cumulative effects, but where such effects would not have the consequence of losing key populations or adversely affecting “proposed critical habitat”. No conferencing is required with FWS or NOAA if this conclusion is made. However, for any proposed activity that would receive a “Likely To Adversely Affect” conclusion if the species were to be listed, conferencing may be initiated.

3. Likely to Jeopardize the Continued Existence of the Species or Result in Destruction or Adverse Modification of Proposed Critical Habitat

This conclusion must be determined if there are significant effects that could jeopardize the continued existence of the species, result in adverse modification or destruction of proposed critical habitat, and/or result in irreversible or irretrievable commitments of resources that could foreclose options to avoid jeopardy, should the species be listed. If this is the conclusion, conferencing with FWS or NMFS is required.

**Sensitive Species:**

1. No Impact (NI)

A determination of “No Impact” for sensitive species occurs when a project or activity will have no environmental effects on habitat, individuals, a population or a species.

2. May Impact Individuals or Habitat, But Will Not Likely Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species (MIIH)

Activities or actions that have effects that are immeasurable, minor or are consistent with Conservation Strategies would receive this conclusion. For populations that are small - or vulnerable - each individual may be important for short and long-term viability.

3. Will Impact Individuals or Habitat With a Consequence That the Action May Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species (WIFV)

Loss of individuals or habitat can be considered significant when the potential effect may be:

1. Contributing to a trend toward Federal listing (C-1 or C-2 species);
2. Results in a significantly increased risk of loss of viability for a species; or,
3. Results in a significantly increased risk of loss of viability for a significant population (stock).

4. Beneficial Impact (BI)

Projects or activities that are designed to benefit, or that measurably benefit a sensitive species should receive this conclusion.

ATTACHMENT 4:

**Conclusions Of Effects For Use In Biological Evaluations and Assessments  
USDA Forest Service - Regions 1, 4, and 6  
August, 1995**

**Listed Species:**

1. No Effect

Occurs when a project or activity will not have any “effect”, on a listed species, or critical habitat.

2. May Affect - Likely to Adversely Affect (LAA)

If the determination in the biological assessment is that the project May Affect - Likely to Adversely Affect a listed species or critical habitat, formal consultation must be initiated (50 CFR 402.12). Formal consultation must be requested in writing through the Forest Supervisor (FSM 2670.44) to the appropriate FWS Field Supervisor, or NOAA Fisheries office.

3. May Affect - Not Likely to Adversely Affect (NLAA)

If it is determined in the biological assessment that there are “effects” to a listed species or critical habitat, but that those effects are not likely to adversely affect listed species or critical habitat, then written concurrence by the FWS or NOAA Fisheries is required to conclude informal consultation (50 CFR 402.13).

4. Beneficial Effect

Written concurrence is also required from the FWS or NOAA Fisheries if a beneficial effect determination is made.

Requests for written concurrence must be initiated in writing from the Forest Supervisor to the State Field Supervisor (FWS or NOAA).

**Proposed Species:**

Whenever serious adverse effects are predicted for a proposed species or proposed critical habitat, conferencing is required with the FWS or NOAA Fisheries.

1. No Effect

When there are “no effects” to proposed species, conferencing is not required with FWS or NOAA.

2. Not Likely to Jeopardize the Continued Existence of the Species or Result in Destruction or Adverse Modification of Proposed Critical Habitat

This conclusion is used where there are effects or cumulative effects, but where such effects would not have the consequence of losing key populations or adversely affecting “proposed critical habitat”. No conferencing is required with FWS or NOAA if this conclusion is made. However, for any proposed activity that would receive a “Likely To Adversely Affect” conclusion if the species were to be listed, conferencing may be initiated.

3. Likely to Jeopardize the Continued Existence of the Species or Result in Destruction or Adverse Modification of Proposed Critical Habitat

This conclusion must be determined if there are significant effects that could jeopardize the continued existence of the species, result in adverse modification or destruction of proposed critical habitat, and/or result in irreversible or irretrievable commitments of resources that could foreclose options to avoid jeopardy, should the species be listed. If this is the conclusion, conferencing with FWS or NMFS is required.

**Sensitive Species:**

1. No Impact (NI)

A determination of “No Impact” for sensitive species occurs when a project or activity will have no environmental effects on habitat, individuals, a population or a species.

2. May Impact Individuals or Habitat, But Will Not Likely Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species (MIIH)

Activities or actions that have effects that are immeasurable, minor or are consistent with Conservation Strategies would receive this conclusion. For populations that are small - or vulnerable - each individual may be important for short and long-term viability.

3. Will Impact Individuals or Habitat With a Consequence That the Action May Contribute to a Trend Towards Federal Listing or Cause a Loss of Viability to the Population or Species (WIFV)

Loss of individuals or habitat can be considered significant when the potential effect may be:

4. Contributing to a trend toward Federal listing (C-1 or C-2 species);
5. Results in a significantly increased risk of loss of viability for a species; or,
6. Results in a significantly increased risk of loss of viability for a significant population (stock).

4. Beneficial Impact (BI)

Projects or activities that are designed to benefit, or that measurably benefit a sensitive species should receive this conclusion.

## **Appendix D – Biological Evaluation, Fisheries**







File Code: 2670  
Route To: Files

Date: July 9, 2007

**Subject:** Specialist Report (Biological Evaluation, Manguson-Stevens Act Assessment, and Management Indicator Species Review)

**To:** Mary Allison – District Ranger  
Al Brown – Natural Resources Planner

## Preface for Specialist Report

This specialist report serves as the following:

- The Biological Evaluation that addresses species listed under the Endangered Species Act (1973).
- The evaluation of effects to fish covered under the Manguson-Stevens Fisheries Conservation Act (MSA) and associated Essential Fish Habitat (EFH).
- The evaluation of Management Indicator Species (MIS) as required by the Willamette Land and Resource Management Plan (the Forest Plan). MIS fish species are designated in the Forest Plan as anadromous fish and resident trout species.

## Executive Summary

All of the alternatives have the same effect on ESA listed fish, MSA-EFH, and MIS fish. That is, **no effect** whatsoever. The following rationale is used for this effects determination:

- There are no listed fish (spring Chinook salmon and bull trout) or designated critical habitat upstream of Tamolitch Falls which is approximately 20 miles “downhill” from the project area. In addition, there are no streams in the project area that have surface connection to the McKenzie River and it is therefore physically impossible for effects from OHV use to be transmitted downstream to ESA listed fish habitat. This rationale is also applicable for a “no effect” to designated critical habitat for spring Chinook salmon and bull trout.
- MSA-EFH is not designated upstream of historical barriers (i.e. Tamolitch Falls). Therefore no EFH exists in the project area, and as described above it is physically impossible for effects from OHV use to be transmitted downstream to EFH.
- MIS fish that inhabit Big Lake were planted in the lake to provide for recreational opportunities. From a biological standpoint they would not be considered desirable to the lake ecosystem. These populations persist naturally and by hatchery plantation (ODFW), and given the impacts from current OHV use and the ability of these fish to persist it is highly unlikely that any alternative would have a negative effect to these fish.
- Executive Order 12962: Recreational Fishing. None of the alternatives would impact fish stocked in Big Lake, and none of the alternatives propose to limit fishing



opportunities or to close boat ramps. The Forest Service would continue to work with ODFW to stock fish appropriate for recreational angling purposes.

## **Project Background**

The 13,854-acre Project Area is located on the McKenzie River Ranger District, Willamette National Forest. The project area is bounded by Forest road 2676 on the west (roadway is included), U.S. Highway 20 on the north, the Willamette National Forest boundary and Pacific Crest divide on the east, and the Mt. Washington Wilderness Area boundary on the south. Public access into this area from U.S. Highway 20 is primarily by the paved Big Lake Road, or Forest road 2890.

The Santiam Pass area is a popular destination for summer motorized recreation, and the project area is part of a larger 17,242 acre Dispersed Recreation, Semiprimitive Motorized Management Area determined in the 1990 Willamette National Forest Land and Resource Management Plan. In addition to OHV riding, other dispersed recreation activities that occur in the area include dispersed camping, hunting, hiking, horseback riding, bicycling, driving for sight-seeing and to visit the Sand Mountain Lookout.

The project area currently has 66 miles of existing Forest system roads. Unmanaged OHV use has resulted in more than 8 miles of user-created tracks within the project area. Dispersed day-use and overnight-use camping sites are located along Forest road 2890 and on portions of the historic Santiam Wagon Road, which runs east to west through the project area. The Santiam Wagon Road is segmented within the project area as Forest roads 2676-866, 2690-810, and 2690-811. Approximately 3.4 miles of the Pacific Crest National Scenic Trail runs along the Cascade Crest on the east side of the project area. Developed recreation sites in the project area include the Hoodoo Ski Area, under a special use permit, and the Big Lake Campground Complex.

Legal description of the project: T.13S, R.7E, Sections 13-15, 22-27, 34-36; T.13S, R.7 1/2E, Sections 21-28, 33-36; T.14S, R.7 1/2E, Sections 1-3, 10-12; and T.14S, R.7 1/2E, Sections 1-4, 9-12, 15 and 15; Willamette Meridian; Linn County, Oregon.

## **Purpose and Need**

There is a need to implement a more formal management approach to conditions in the project area, in the Big Lake Campground area, in and around the Hoodoo Ski Area, and in the Santiam Wagon Road and Sand Mountain Special Interest Areas.

Increases in both total use and the types of use have prompted this analysis of methods to provide appropriate uses which result in quality recreation experiences, with an emphasis on opportunities unique to the area. At the same time, heritage resources must be protected, as well as sensitive plant and animal habitats in the area.

## **The Proposed Action**

The Proposed Action, represented as Alternative 2, would satisfy the need to provide designated motorized use within the project area; to restore recreation-related resource impacts to heritage

resources, to restore plant and animal habitat and to protect these resources into the future. In general, the following would be implemented in this proposal:

### **OHV, Road and Trail Development:**

- Designate 37.3 miles of Forest Road open to Motorized Mixed Use.
- Designate 7.6 miles of Forest Road open to ATV Class I & III only.
- Close 16.3 miles of Forest Road to motorized use.
- Reconstruct 4.4 miles of user created tracks, which will be open to ATV Class I & III.
- Construct 7.9 miles of new motorized trails open to ATV Class I & III
- Close 5.6 miles of user-created tracks to all motorized use and rehabilitate.

### **Santiam Wagon Road**

- Designate 6.0 miles of the Santiam Wagon Road open to Motorize Mixed Use.
- Rehabilitate all portions of the Santiam Wagon Road to approximate historic route, profile, and width, close and rehabilitate user-created OHV crossings.

### **Staging Area Development**

- Establish two, day-use staging areas for off-loading OHVs from trailers, one located along the Big Lake Road at the junction of Forest Road 2690 and south side of 2690-860, and the other near the junction of Forest Road 2690 and 2690-810, (Santiam Wagon Road). User education and information kiosks and toilet facilities would be included at each site.

### **Regulated Camping Zone**

- Designate 34 dispersed campsites within the Regulated Camping Zone, along Big Lake Road 2690 and Santiam Wagon Road, the 2690-810 portion.
- Block and rehabilitate existing dispersed campsites not incorporated into this action.

### **Open Play Area and Kiddy Loop**

- Establish 22.4 acres as Open Play Area within the sand blowout feature that exists at the junction of the Sand Mountain lookout road 2690-810 and Santiam Wagon Road 2676-866 portion.
- Establish a 18.3 acre Kiddy Loop Trail Area north of Big Lake Campground between the Big Lake Road 2690 and Santiam Wagon Road, 2690-810.

## **Alternative 1 – The Current Management Situation (No Action)**

This alternative assesses the present condition of the affected environment and serves as the basis of comparison for the other alternatives analyzed. Under the existing management scenario, within the project area, recreation use will continue to be managed as it currently is.

Alternative 1 would not take actions to meet the need to manage motorized use within the Santiam Pass Summer Motorized Recreation Project Area. It does not restore and protect recreation-related resource impacts to historic properties and sensitive habitat for plants and animals. The no action alternative does change the opportunity for quality recreation experiences within the project area.

Current trends of OHV use in the project area at Santiam Pass would continue. The McKenzie River Ranger District would continue current monitoring and enforcement under existing regulations for OHV use on the forest roads and unauthorized user-created tracks within the project area.

This alternative does not close and or rehabilitate, unauthorized user-created tracks and no existing dispersed campsites would be rehabilitated. Camping by motorized users at existing dispersed camp sites is likely to continue unchanged. Unregulated dispersed motorized camping would expand existing campsites into undisturbed areas. Loading and unloading of OHVs at existing camp sites would continue in the current unregulated manner.

No new information Kiosks or sanitation facilities would be built. No Open Play Areas or Kiddy Loop Trail Areas would be added.

## **Alternative 2 – The Proposed Action**

Alternative 2 – the Proposed Action, is generally the same alternative that was presented in the February 3, 2005 scoping letter. Minor changes were made to this alternative after considering scoping comments received. Alternative 2 would implement the following actions, which meets the project purpose and need to provide designated motorized use within the Santiam Pass Summer Motorized Recreation Project Area; and to restore recreation-related resource impacts to heritage resources and plant and animal habitat and protect these resources in the future.

### **OHV, Road and Trail Development:**

- Designate 37.3 miles of Forest Road open to Motorized Mixed Use.
- Designate 7.6 miles of Forest Road open to ATV Class I & III only.
- Close 16.3 miles of Forest Road to motorized use.
- Reconstruct 4.4 miles of user created tracks, which will be open to ATV Class I & III.
- Construct 7.9 miles of new motorized trails open to ATV Class I & III
- Close 5.6 miles of user-created tracks to all motorized use and rehabilitate.

### **Santiam Wagon Road**

- Designate 6.0 miles of the Santiam Wagon Road open to Motorize Mixed Use.
- Rehabilitate all portions of the Santiam Wagon Road to approximate historic route, profile, and width, close and rehabilitate user-created OHV crossings.

### **Staging Area Development**

- Establish two, day-use staging areas for off-loading OHVs from trailers, one located along the Big Lake Road at the junction of Forest Road 2690 and south side of 2690-860, and the other near the junction of Forest Road 2690 and 2690-810, (Santiam Wagon Road). User education and information kiosks and toilet facilities would be included at each site.

### **Regulated Camping Zone**

- Designate 34 dispersed campsites within the Regulated Camping Zone, along Big Lake Road 2690 and Santiam Wagon Road, the 2690-810 portion.
- Block and rehabilitate existing dispersed campsites not incorporated into this action.

### **Open Play Area and Kiddy Loop**

- Establish 22.4 acres as Open Play Area within the sand blowout feature that exists at the junction of the Sand Mountain lookout road 2690-810 and Santiam Wagon Road 2676-866 portion.
- Establish a 18.3 acre Kiddy Loop Trail Area north of Big Lake Campground between the Big Lake Road 2690 and Santiam Wagon Road, 2690-810.

### **Alternative 3**

Alternative 3 would implement the following actions, which meets the project purpose and need to provide designated motorized use within the Santiam Pass Summer Motorized Recreation Project Area; and to restore recreation-related resource impacts to heritage resources and plant and animal habitat and protect these resources in the future.

#### **OHV, Road and Trail Development:**

- Designate 30.6 miles of Forest Road open to Motorized Mixed Use.
- Designate 12.1 miles of Forest Road open to ATV Class I & III only.
- Close 18.5 miles of Forest Road to motorized use.
- Reconstruct 5.2 miles of user created tracks, which will be open to ATV Class I & III.
- Construct 9.8 miles of new motorized trails open to ATV Class I & III
- Close 4.8 miles of unauthorized user-created tracks to all motorized use and rehabilitate.

#### **Santiam Wagon Road**

- Designate 4.5 miles of the Santiam Wagon Road open to Motorized Mixed Use; starting at the junction of Forest Road 860 / 810, east to the Forest boundary.
- Close 1.5 miles of the Santiam Wagon Road to ATV Class I, II, and III; from the junction of Forest Road 890, west to the junction of Forest Road 2676
- Rehabilitate all portions of the Santiam Wagon Road to approximate historic route, profile, and width, close and rehabilitate user-created OHV crossings not incorporated in the trail system.

#### **Staging Area Development**

- Establish a day-use staging areas for off-loading OHVs from trailers, located along the Big Lake Road at the junction of Forest Road 2690 and 2690-860.
- Designate a section of Ray Benson SnoPark for day use parking.
- Designate Little Nash SnoPark at the junction of Forest Road 2676 and HWY 20/126 as a staging area.

#### **Regulated Camping Zone**

- Designate 20 dispersed campsites within the Regulated Camping Zone, along Big Lake Road 2690 and Santiam Wagon Road the 2690-810.
- Block and rehabilitate all other dispersed campsites not incorporated into this action.
- Designate a section of Ray Benson SnoPark for overnight fee camping.

### **Open Play Area and Kiddy Loop**

- Close the sand blowout feature that exists at the junction of the Sand Mountain lookout road 2690-810 and Santiam Wagon Road 2676-866 portion to all motorized use.

- Establish two Kiddy Loop Trail Areas: one northwest of Ray Benson SnoPark and one south of the Santiam Wagon Road.

## **Alternative 4**

Alternative 4 would implement the following actions, which meets the project purpose and need to provide designated motorized use within the Santiam Pass Summer Motorized Recreation Project Area; and to restore recreation-related resource impacts to heritage resources and plant and animal habitat and protect these resources in the future.

### **OHV, Road and Trail Development:**

- Designate 17.8 miles of Forest Road open to Motorized Mixed Use.
- Designate 14.5 miles of Forest Road open to ATV Class I & III only.
- Close 24.3 miles of Forest Road to motorized use.
- Reconstruct 2.7 miles of user created tracks, which will be open to ATV Class I & III.
- Construct 6.6 miles of new motorized trails open to ATV Class I & III.
- Close 7.3 miles of user-created tracks to all motorized use and rehabilitate.

### **Santiam Wagon Road**

- Designate 4.1 miles of the Santiam Wagon open to Highway Legal Vehicles; starting at the junction of Forest Road 2676-866 and Sand Mountain Road, east to the Forest boundary.
- Close 1.9 miles of the Santiam Wagon Road to all motorized vehicles from the junction of Forest Road 2676, east to the junction of Forest Road 2676-866 and Sand Mountain Road.
- Rehabilitate all portions of the Santiam Wagon Road within the planning area, to approximate historic route, profile, and width. Establish two motorized trail crossings to facilitate access to Big Lake Campground.

### **Staging Area Development**

- Establish a day-use staging areas for off-loading OHVs from trailers, located along the Big Lake Road at the junction of Forest Road 2690 and 2690-860.
- Designate a section of Ray Benson SnoPark as a day use staging area.

### **Regulated Camping Zone**

- Designate 15 dispersed campsites within the Regulated Camping Zone, along Big Lake Road 2690 and Santiam Wagon Road the 2690-810.
- Block and rehabilitate all other dispersed campsites not incorporated into this action.
- Designate a section of Ray Benson SnoPark for overnight fee camping.

### **Open Play Area and Kiddy Loop**

- Close the sand blowout feature that exists at the junction of the Sand Mountain lookout road 2690-810 and Santiam Wagon Road 2676-866 portion, to all motorized use.
- Establish a 3.6 acre Kiddy Loop Trail Area northwest of Ray Benson SnoPark.

## **Description of the project area as it relates to fish.**

The project area lies within that portion of the watershed that is dominated by the Early High Cascades Platform. This area is characterized by very porous and permeable soils, and has relatively few perennial streams. The majority of streams in the area are ephemeral in nature and have no surface connection to the McKenzie River.

Big lake is the only fish bearing water body in the project area. Historically it is a fishless lake, but is currently stocked by the Oregon Department of Fish and Wildlife (ODFW). The Upper McKenzie Watershed Analysis documented that brook trout, rainbow trout, cutthroat trout, and kokanee (landlocked sockeye salmon) are stocked in Big Lake. ODFW has recently begun stocking spring Chinook salmon in the lake in order to decrease the kokanee population. Like the kokanee, these Chinook salmon are landlocked (i.e. there is no outlet streams that would allow the fish to fulfill their anadromous life history).

The hatchery Chinook salmon planted in Big Lake are not considered part of the ESA listing because there is no opportunity for the salmon to migrate to the ocean. The non-ESA listed status of the hatchery Chinook was affirmed by the National Marine Fisheries Service (NMFS) in an e-mail message to the Willamette National Forest. In that message NMFS stated the following:

*The lake is out of the range of naturally migrating and outplanted listed fish, with no access by other Chinook populations. The fish stocked into Big Lake are surplus to the smolt program in the North Santiam River and are not needed, nor intended for, conservation/recovery purposes of the ESU. This release is strictly for fishing purposes in the lake.*

*Because the purpose of the fish in Big Lake is recreational fishing opportunities, the effects of other actions will not affect the ESU. Depending on when your proposed actions take place, they may be gone--and further outplantings are not expected. The Hatchery ESA Listing Policy was described originally in Federal Register Notice 69 FR 31354, and summarized in the final policy in 70 FR 37204 with the following statement germane to these stocked fish:*

*‘Tribal harvest, non-tribal harvest, and other beneficial uses of surplus listed hatchery fish may be allowed provided they are managed consistent with the conservation and recovery needs of listed salmon and steelhead ESUs. Specifically, NMFS proposed to allow for the harvest of hatchery fish listed as threatened that are surplus to the conservation and recovery needs of the ESU, in accordance with fishery management plans approved under section 4(d) of the ESA.’*

*In this situation, the Chinook stocked in Big Lake, not for reintroduction or recovery purposes, provide no conservation value to the ESU, and fit the intent of our regulations.*

## **Effects Determination**

The proposed action, and all of the alternatives, would have the same effect on ESA listed fish, MSA-EFH designated fish and habitat, and MIS fish: **no effect**.

Rationale:

None of the alternatives would have actions adjacent to Big Lake (the only fish bearing water body in the project area); There is no designated EFH upstream of Tamolitch Falls; the hatchery Chinook salmon planted in Big Lake are not necessary to the conservation of the ESU (Evolutionary Significant Unit); and there are no streams with surface connection to the McKenzie River.

The proposed action is consistent with Executive Order 12962 (Recreational Fishing) as it would not limit recreational fishing opportunities in Big Lake.

**/s/ Ramon Rivera**

**RAMON RIVERA**

Supervisory Fisheries Biologist



## **Appendix E – Biological Evaluation, Wildlife**



<b>File Code:</b>	2670 T, E, and S species	<b>Date:</b>	27 July 2007
<b>Route To:</b>	Project File		
<b>Subject:</b>	Terrestrial Fauna Biological Evaluation (BE) for Santiam Pass Summer Motorized Recreation Project		

## SUMMARY OF DETERMINATIONS

### Determinations:

The following summarizes effect or impact determinations to species currently listed as threatened, endangered, or sensitive (TES) that may have suitable habitat identified, and have either documented or suspected occurrence within the project area. **There are no recognized effects or impacts to TES species from No Action.**

Activities associated with the proposed project **will have no affect** on the following federally listed threatened species:

- **Northern Spotted Owl**

Activities associated with the proposed project should have **no impact** on individuals of the following regionally listed sensitive species or their habitat:

- **Peregrine Falcon**
- **Bald Eagle**
- **Wolverine**
- **Pacific Fringe-tailed Bat**
- **Bufflehead**
- **Crater Lake Tightcoil**

Cumulative effects of this project in conjunction with other reasonably foreseeable projects in and adjacent to the project area are not expected to jeopardize the continued existence of any TES species as a result of modification of their essential habitat; nor would they likely contribute to a trend towards Federal listing or cause a loss of viability to populations of species designated as R-6 Sensitive or as Management Indicator Species on the Willamette National Forest. Maintenance and/or recovery of late successional habitat serving as current or potential dispersal corridors surrounding the project area will ensure ongoing opportunities for occupancy and movement of terrestrial TES wildlife species that may occur in the vicinity of this project and are dependent on such habitat.

## SUMMARY OF SEASONAL RESTRICTIONS/RECOMMENDATIONS

Implementing the following recommendations would ensure effects or impacts on listed species from proposed activities would be no greater than those addressed in this document, and also would mitigate those impacts.

### Spotted Owl

- Impose seasonal restriction on activities associated with project that generate above-ambient noise levels during the spotted owl critical nesting period between March 1 and July 15.

### Pacific Fringe-tailed Bat

- Protect decadent trees and snags >12" dbh (roosting habitat) adjacent to the project area to the greatest extent feasible while conducting project activities.

## **Introduction**

This document addresses potential effects to proposed, threatened, endangered or sensitive (TES) fauna listed in the Region 6 Regional Forester's Federally Listed or Proposed, and Sensitive Species Lists (dated July 21, 2004) with documented or suspected occurrences on the Willamette National Forest from activities associated with this project. Biological Evaluations of the potential effects to threatened, endangered and sensitive fish and flora are in separate documents prepared by this project's Fish Biologist and Botanist. This evaluation, required by the Interagency Cooperative Regulations (Federal Register, January 4, 1978), ensures compliance with the provisions of the Endangered Species Act (ESA) of 1973, P.L. 93-205 (87Stat. 884), as amended. A review of potential effects to non-TES wildlife species from this project proposal is presented in a separate Wildlife Specialist Report in the project analysis file.

## **Project Location and Description**

### Alternatives:

The Santiam Pass Summer Motorized Recreation Project will be analyzed in an Environmental Analysis that reviews four alternatives –a No Action alternative and three action Alternatives.

*No Action Alternative:* There is no rationale to suggest the No Action alternative would affect or impact any terrestrial TES species based on current habitat conditions in the project area and ecological requirements of these listed species. Considering the No Action Alternative would have no effect/impact on TES terrestrial wildlife species is based on the following assumption - taking no action would not affect current habitat or wildlife species that may be present as either evolves without human management. The dynamic nature of habitat suitability that may be subject to an unknown frequency and variety of stochastic events is considered beyond the scope of this evaluation. Only potential effects or impacts of the Action Alternative will be discussed further in this document.

*Action Alternative:* The influence of proposed activities on terrestrial wildlife is considered in the context of whether or not suitable habitat may be modified or if a species may be present at or near sites where physical disturbance may occur, or be sensitive to and thereby influenced by anthropogenic activities occurring during implementation of this project. Habitat disturbance that may impact some terrestrial TES species could occur as a result of this project. That potential is addressed later in this BE.

## **Management Direction Compliance**

The alternative selected for management of the Willamette National Forest includes a strategy that provides Management Requirements (MRs) exceeding the minimum MRs established for Management Indicator Species (MIS) as presented in the Willamette Forest Plan FEIS Appendices - Volume 1 (USDA 1990, pp B-79 through 82). Maintenance of the MRs ensures the viability of MIS and the species they represent. The MRs have been further enhanced for most MIS species (i.e. those species dependent on old growth and mature conifer habitat, and dead and defective tree habitat) under the Forest Plan S&Gs as amended by the Northwest Forest Plan.

Proposed action associated with this project complies with current Standards and Guidelines (S&Gs) pertaining to MIS management, including those MIS species also listed as threatened, endangered, or sensitive. This proposal also complies with other S&Gs established in the Willamette National Forest Land and Resource Management Plan (1990) as amended by the Northwest Forest Plan Records of Decision (ROD) (1994, 2001, and 2004).

## **TES SPECIES – REVIEW AND ASSESSMENT**

The Biological Evaluation (BE) is a 6-step process that identifies known or suspected threatened, endangered, and sensitive (TES) or Proposed wildlife species that may be associated with a project area, and evaluates impacts the project may have to those species. The six steps are as follows:

1. Prefield review of existing information.
2. Field reconnaissance of the project area to document evidence of a species or habitat.
3. Assessment of whether known or suspected populations of TES or Proposed species will be affected by the project.
4. Analysis of the significance of the project's effects on local and entire populations of TES or Proposed species.
5. If step 4 cannot be completed due to lack of information, a biological investigation is done.\*
6. Conferencing or informal/formal consultation with the U.S. Fish & Wildlife Service (USFWS) is initiated at appropriate stage as outlined in FSM 2673.2-1, or is otherwise arranged through formal channels.

\* Step 5 pertains only to listed species and will not be indicated except when applicable.

A summary of ecological requirements for Federally listed<sup>1</sup> or proposed<sup>2</sup> species, and animal species on the Regional Forester's Sensitive Species List<sup>3</sup> for species with documented or suspected occurrence in the the Willamette National Forest is displayed in Table 1.

A summary of the BE process showing **effects determinations**<sup>4</sup> for Federally listed or proposed species, and **impact determinations**<sup>5</sup> for animal species on the Regional Forester's Sensitive Species List for species with known or potential occurrence in the project area is displayed in Table 2.

- 1 Species listed based on the USDA Forest Service Pacific Northwest Region Federally Listed or Proposed Species list (updated 7/21/04) having documented or suspected occurrence on the Willamette National Forest.
- 2 When a species is proposed for listing under the Endangered Species Act of 1973 (with amendments), a notice is published in the Federal Register, a daily publication of the Federal Government. The Federal Register is available on the internet at the following site: <http://www.access.gpo.gov/nara/nara005.html>
- 3 Species listed based on the USDA Forest Service Regional Forester's Sensitive Animal List (updated 7/21/04) (USDA 2004a,b) having documented or suspected occurrence on the Willamette National Forest.
- 4 The criteria for effects determinations can be found in the *Endangered Species Act Consultation Handbook: Procedures for Conducting Section 7 Consultations and Conferences* (USFS and NMFS 1998).
- 5 Impact determinations are required for all species listed under the Regional Forester's Sensitive Species List (Forest Service Manual 2670.32, 2670.5). Direct, indirect, and cumulative effects should be considered. For a discussion of cumulative effects analysis, see the document *Considering Cumulative Effects under the National Environmental Policy Act* (Council on Environmental Quality 1997).

Table 1. Summary of Ecological Requirements for Animal Species on the Regional Forester's Federally Listed and Sensitive Species Lists for species with documented or suspected occurrence on the Willamette National Forest (July 21, 2004).

Species	Habitat
<p>Northern Spotted Owl <i>Strix occidentalis</i></p> <p><b>Status: Federally Threatened</b></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 and occupied territories recorded on the McKenzie River RD.</p>
<p>Northern Bald Eagle <i>Haliaeetus leucocephalus</i></p>	<p>Use scattered old-growth conifer trees in proximity to open water near 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 Blue River Reservoir, with activity at lakes and reservoirs and foraging along the McKenzie River.</p>
<p>Least Bittern <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 are small platform of sticks and live or dead vegetation, placed in cattails, bulrushes, or bushes 8-14” above water. No confirmed sightings on the McKenzie River RD.</p>
<p>Bufflehead <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. Winter sightings common along reservoirs, and nesting activity suspected at sites associated with numerous high elevation lakes on the McKenzie River RD.</p>
<p>Harlequin Duck <i>Histrionicus histrionicus</i></p>	<p>During nesting (April-June) adults require fast-flowing water with midstream 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 in close proximity to water. Broods prefer low gradient streams with adequate macroinvertebrate abundance. Breeding and foraging known to occur along portions of the McKenzie River and South fork McKenzie River.</p>
<p>American Peregrine Falcon <i>Falcon peregrinus anatum</i></p>	<p>Preferred nesting sites are sheer cliffs 75 ft. or more in height having horizontal ledges or small caves. Foraging is associated with a variety of open and forested habitats, however is most closely associated with riparian settings. Numerous potential nest sites and occupied territories occur on the McKenzie River RD.</p>
<p>Yellow Rail <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, and coastal marshes. No documented occurrence in potential habitat on McKenzie River RD.</p>
<p>Black Swift <i>Cypseloides niger</i></p>	<p>Found near wet cliffs in mountainous regions. Feeds on-the-wing eating flying insects. Nests in small colonies on ledges or mountain crevices associated with waterfalls. There are historical records in the Lane County.</p>
<p>Baird’s Shrew <i>Sorex bairdii permiliensis</i></p>	<p>Poorly understood but generally considered a non-riparian associate. In 1986 two specimens were trapped from an open Douglas-fir forested area with numerous rotting logs in Polk Co. It has also been trapped on McKenzie River RD in the Mill Creek area and in the Blue River watershed.</p>

<p>Pacific Shrew <i>Sorex pacificus cascadenis</i></p>	<p>Poorly understood, but considered a riparian associate generally found in moist areas along class III-IV streams with abundant vegetation and down material. Occasionally found in adjacent conifer forest with moist abundant decaying logs and brush. Nests made of grasses, mosses, lichens, or leaves. Feed on slugs, snails, insects, and sometimes vegetation. No known locations on Mckenzie River RD.</p>
<p>Pacific Fisher <i>Martes pennanti</i></p>	<p>Considered a riparian associate but 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. A few sighting on the Mckenzie River RD.</p>
<p>California Wolverine <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 may move to lower elevations that are snowbound and/or have very limited human activity. They are capable of foraging widely (30-40 km) on a daily basis, and 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. A few sightings on the Mckenzie River RD.</p>
<p>Pacific Fringe-tailed Bat <i>Myotis thysanodes vespertinu</i></p>	<p>Occurs in Oregon, however habitat use is poorly documented. 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. Occurrence has not been documented on the Mckenzie River RD.</p>
<p>Oregon Slender Salamander <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. Sightings have been documented at lower elevation sites on Mckenzie River RD.</p>
<p>Cascade Torrent Salamander <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. Limited sightings reported on the Mckenzie River RD.</p>
<p>Foothill Yellow-legged Frog <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 lands adjacent to the Sweet Home RD to the north. No sightings on the Mckenzie River RD.</p>

<p>Oregon Spotted Frog <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 susceptible to mortality due to freezing or drying. Documented populations on the Mckenzie River RD occurs in the Mink Lake Basin Area.</p>
<p>Northwestern Pond turtle <i>Clemmys marmorata marmorata</i></p>	<p>Inhabit 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. Sparse vegetation, usually short grasses or forbs characterize most nesting areas. Limited sightings on the district.</p>
<p>Mardon Skipper <i>Polites mardon</i></p>	<p>A small, tawny-orange butterfly currently known to exist at seven, small, geographically disjunct areas in Washington, Oregon, and California. In the southern Washington Cascades, the mardon skipper is found in open, fescue grasslands within Ponderosa pine savanna/woodland habitat at elevations ranging from 1900' to 5100'. South Cascade sites vary in size from small, ½ acre or less meadows, to large grassland complexes, and site conditions range from dry, open ridgetops, to areas associated with wetlands or riparian habitats. Within these environments a variety of nectar source plants are important. The short, open stature of native fescue bunchgrass stands allows mardon skippers to access nectar and oviposition plants. There are no known populations of this species on the Mckenzie River RD.</p>
<p>Crater Lake Tightcoil <i>Pristiloma arcticum crateris</i></p>	<p>Species may be found sparsely distributed throughout Oregon Cascades above 2000' elevation associated with perennially wet environment in mature conifer forests and meadows among vegetation or under rocks and woody debris. Suitable locations within 10 meters of open water generally in areas under snow for extended periods during winter. One documented site on Middle Fork RD along with a few sites on Mt Hood, Deschutes, Umpqua, Winema, and Rouge River National Forests.</p>



Table 2. Biological Evaluation process for Willamette TES (or Proposed) fauna associated with potential effects from Santiam Pass Summer Motorized Recreation Project Action Alternatives.

	<b>STEP 1</b>	<b>STEP 2</b>	<b>STEP 3</b>	<b>STEP 4</b>	<b>STEP 6</b>
	<i>Prefield Review</i>	<i>Field Recon.</i>	<i>Risk Assessment</i>	<i>Analysis of Significance</i>	<i>USFWS Review</i>
<b>SPECIES</b>	<b>Habitat Present (B,R,F,D)*</b>	<b>Occupancy Status</b>	<b>Conflicts? Action Alt</b>	<b>Effects / Impacts Action Alt</b>	<b>Consulation? BA<sup>1</sup>/BO<sup>2</sup></b>
Northern Spotted Owl <i>Strix occidentalis caurina</i>	B,R,F,D	Assumed Occupied	No Conflict	NE Seasonal restriction Mar 1-July15	NA
Northern Bald Eagle <i>Haliaeetus leucocephalus</i>	F	Occupied	No Conflict	NE Adjacent to Foraging cooridor	
Least Bittern <i>Ixobrychus exilis</i>	No			NI	
Bufflehead <i>Bucephala albeola</i>	F,D	Assumed Occupied	No Conflict	NI	
Harlequin Duck <i>Histrionicus histrionicus</i>	No			NI	
American Peregrine Falcon <i>Falcon peregrinus anatum</i>	F,D	Occupied	No Conflict	NI Seasonal Restriction Jan1-July15	
Yellow Rail <i>Coturnicops noveboracensis</i>	No			NI	
Black Swift <i>Cypseloides niger</i>	No			NI	
Baird's Shrew <i>Sorex bairdii permiliensis</i>	No			NI	
Pacific Shrew <i>Sorex pacificus cascadenis</i>	No			NI	
Wolverine <i>Gulo gulo</i>	F,D	Winter habitat only	No Conflict	NI	
Fisher <i>Martes pennanti</i>	No			NI	
Pacific Fringe-tailed Bat <i>M. thysanodes vespertinu</i>	R,F	Unknown	No Conflict	NI	
OR Slender Salamander <i>Batrachoseps wrighti</i>	No			NI	
Cascade Torrent Salamander <i>Rhyacotriton cascadae</i>	No			NI	
Foothill Yellow-legged Frog <i>Rana boylei</i>	No			NI	
Oregon Spotted Frog <i>Rana pretiosa</i>	No			NI	
Northwestern Pond Turtle <i>C. marmorata marmorata</i>	No			NI	
Mardon Skipper <i>Polites mardon</i>	No			NI	
Crater Lake Tightcoil <i>Pristiloma arcticum crateris</i>	B,R,F,D	Unknown	No Conflict	NI	

\* B = breeding (nesting/denning) habitat R = roosting/cover habitat F = foraging habitat D = dispersal habitat

<sup>1</sup> Date of Biological Assessment (BA) Consultation initiated with USFWS

<sup>2</sup> Date Biological Opinion (BO) or Concurrence issued from USFWS

NA = not applicable

NE = No Effect

BE = Beneficial Effect

NLAA<sup>a</sup> = May Affect, Not Likely to Adversely Affect

LAA<sup>b</sup> = May Affect, Likely to Adversely Affect

NI = No Impact.

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<sup>c</sup> = 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

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).

c A MCT determination may require that an Environmental Impact Statement be written.

### **AFFECTED WILDLIFE – Discussion/Determinations/Recommendations**

A discussion of the affects of the proposed project on TES species follows. **If it was determined that suitable habitat for a species does not occur in the proposed project area (Table 2), it is concluded that the proposed action would have no potential to effect or impact those listed TES species, and the species will not be discussed further in this document. A No Action proposal is expected to have no effect on federally listed threatened, endangered, or proposed species, and is also expected to have no impact on sensitive species identified by the Regional Forester.** References used to support discussion, determinations, and recommendations are listed at the end of this document (Appendix 1).

#### **1) Northern Spotted Owl (*Strix occidentalis caurina*)**

Status: Federal: Threatened

State: Threatened

FS R-6: Sensitive, Identified as Management Indicator Species (MIS)

**Determination: "No Effect" northern spotted owls, "no effect" on designated critical habitat.**

Status Background: It has been reported that in some regards the northern spotted owl is the most studied raptor in the world (Blakesley 2004), yet prior to the early 1970's little was known about this species in the Pacific Northwest. Knowledge and interest quickly accumulated throughout the 1970's and in 1977 management guidelines for spotted owls on public land in Oregon were established. Driven by concerns over habitat loss, the USFWS conducted their first status review of the species in 1982. In 1987 a petition was submitted to list the spotted owl as endangered under the Federal ESA. The USFWS considered listing the species unwarranted at the time, however that decision was later reversed and the owl was officially listed as threatened under the Federal ESA in 1990.

Since that time a DRAFT Recovery Plan was released (USDI 1992), and the Northwest Forest Plan was implemented (1994) and subsequently amended (USDA et al. 2001, 2004) in efforts to most appropriately manage Federal land within the range of the northern spotted owl with the welfare of this and other late-successional species in mind.

On April 26, 2007 the US Fish and Wildlife Service (USFWS) proposed a Draft Recovery Plan for the Northern Spotted Owl and requested public comments on its proposal. The comment period closes on August 24, 2007.

Habitat and Ecology: The northern spotted owl is a species strongly associated with old-growth forests containing a component of large diameter Douglas-fir. These forest stands commonly provide a variety of structural features such as large diameter trees having central cavities, dense canopies with a high level of vertical and horizontal diversity, and an abundance of snags and down logs (Thomas et al. 1990). Stands with all these characteristics provide the best suitable (nesting, roosting, foraging) habitat for spotted owls. However, all of the above characteristics may not need be present for spotted owls to make use of an area as nesting, roosting or foraging habitat. The owl's affinity to old-growth forest types may result from adaptation and niche partitioning of this species to foraging on prey commonly present in such stands under lack of predation pressure and interspecies competition typical of more open areas (USDI 1992). Nevertheless, spotted owls have been known to forage short distances into harvested openings from a forested edge if a prey is available (Carey 2004).

Dispersal-only habitat for the northern spotted owl generally consists of mid seral stage stands between 40 and 80 years of age with canopy closures of 40 percent or greater and trees with a mean dbh of 11 inches or greater. Older stands lacking structural development that supports nesting may be considered dispersal habitat, however on some occasions may provide roosting or foraging opportunities for the species. Spotted owls generally use dispersal habitat to move between blocks of suitable habitat or, for juveniles, to disperse from natal territories (Forsman et al. 2002, USDI 2004a).

The reader is referred to the following documents for a more comprehensive and account of the biology, ecology, and status of the northern spotted owl: A Conservation Strategy for the Northern Spotted Owl (Thomas et al. 1990); Recovery Plan for the Northern Spotted Owl - (USDI 1992); Northern Spotted Owl Five-year Review Summary and Evaluation (USDI 2004a); Status and trends in demography of northern spotted owls, 1985 – 2003 (Anthony et al. 2004); Scientific evaluation of the status of the northern spotted owl - SEI Report (Courtney et al. 2004).

Pre-field Review: This project is consistent with current standards established for projects that could affect the northern spotted owl. These standards were established for the Willamette Province and are listed in both the Programmatic Biological Assessment (BA) (USDA et al. 2006) and the subsequent USFWS Letter of Concurrence (LOC) (USDI 2006) for projects which may disturb bald eagles and northern spotted owls during FY 2007 and 2008.

Effects not specifically discussed in this document pertaining to new threats to the spotted owl (USDI 2004a, Anthony et al. 2004, Courtney et al. 2004) such as wildfire, west Nile virus, and barred owls are of a cumulative nature considered beyond the scope of this individual project. Such threats are addressed in the FY 2007 – 2008 Disturbance BA and LOC, which provide a thorough analysis of new information pertaining to potential threats to this species.

Field Reconnaissance: A portion of the project area is adjacent to or within 0.25 mile of suitable spotted owl habitat. No current surveys have been conducted for spotted owls associated with this habitat that may be used for roosting, foraging, or nesting activity. Based on recent U.S. Fish & Wildlife Biological Opinions pertaining to projects that may disturb spotted owls, unsurveyed suitable habitat may be assumed occupied. Project areas are not within any Late Successional Reserves. A portion of the project is within a designated Critical Habitat Unit and the Santiam Area of Concern for spotted owls.

On June 12, 2007 the USFWS proposed a revision to designated critical habitat for the northern spotted owl. The public comment period on this proposal ends August 13, 2007. In 1992, about 6.9 million acres were designated as Critical Habitat in Washington, Oregon, and California across the range of the spotted owl; the current proposal would reduce the areas included as critical habitat to about 5.3 million acres. The current proposal would also realign designated Critical Habitat Units to more closely overlap existing Late Successional Reserves, a reserve network on federal lands established under the 1994 Northwest Forest Plan.

The Willamette National Forest has identified an area of concern in the vicinity of the Santiam Pass that encompasses portions of the Sweet Home, Detroit and McKenzie River Ranger Districts. The land allocation – matrix – is unable to fully facilitate dispersal requirements for Northern spotted owls. Spotted owl dispersal is limited in two quarter-townships around the Santiam Pass Area of Concern. This area has the potential to be a biological bottleneck for north/south and east/west movement and is highlighted as an area of general dispersal needs in the following documents: Northern spotted owl Draft Environmental Impact Statement (EIS), final Supplemental EIS, Scientific Assessment Team (SAT), Forest Ecosystem Management Assessment Team (FEMAT), A Conservation Strategy for the Northern Spotted Owl, and the Northwest Forest Plan (NWFP) Record of Decision (ROD).

The Northwest Forest Plan ROD assumes that the riparian reserves, 15% green tree retention, other administratively withdrawn areas, and 100-acre LSRs should provide adequate dispersal in most cases. In the case of Santiam Pass Area of Concern, dispersal is a concern for the next 30 years while current early successional forests achieve dispersal conditions (commonly known as 50/11/40).

The current boundary of the Santiam Pass Area of Concern for Northern spotted owl dispersal was developed in 1990 before adoption of the NWFP. In 1998, a team of three district biologists from Detroit, Sweet Home and McKenzie Ranger Districts, along with the Forest Level 1 Team members, analyzed the dispersal needs of spotted owls based on current habitat conditions relative to the NWFP. The results and rationale of this effort from which a recommendation has been made to change the boundary of the Santiam Area of Concern to more effectively meet critical spotted owl dispersal needs.

Only specific small individual trees will be felled for this project. No suitable habitat acres will be modified by this project; no dispersal habitat will be degraded and noise-generating activities associated with this project that may disturb spotted owls during the critical breeding season (March 1 – July 15) will be restricted from occurring.

#### Risk Assessment:

**Project Effects:** There are no recognized direct or indirect effects to spotted owl habitat from activities associated with this project as proposed. The project area experiences high ambient noise levels with its proximity to a major highway corridor, a high use recreational lake with motor boats and jet skis and a dispersed motorized recreation area with off highway vehicle OHV use.

**Cumulative Effects:** The changing trend in timber management occurring within the past decade, and projected for the future, should positively influence occupancy of suitable habitat for northern spotted owls as previously harvested stands within these watersheds redevelop, and as more emphasis is placed on recruitment of key structural components missing from harvested stands as well as retention of key structural components present in unharvested stands and restoration/maintenance of special habitats as key components of biodiversity at a landscape level.

Current Standards and Guidelines governing management of the surrounding landscape provide direction that should provide for long-term maintenance of amount and distribution of suitable spotted

owl habitat. Because of the location of harvest and non-harvest allocations, it is unlikely that cumulative effects would influence the ability of local populations to persist, or become established, by eliminating demographic linkages beyond the species dispersal capabilities.

Analysis of Significance: The Project does propose to fell individual small trees along trails and roads. These trees are not good candidates for suitable spotted owl habitat. Primary constituent elements of designated spotted owl critical habitat will not be measurably affected. A seasonal restriction on activities associated with project that could generate above-ambient noise levels during the spotted owl critical nesting period between March 1 and July 15. Implementing the Action Alternative **will have no effect on northern spotted owls**. This project will have **no effect on designated critical habitat**.

Communication with U.S. Fish and Wildlife Service: None required for no effect determination.

Recommendations: None warranted

## 2) American Peregrine Falcon (*Falco peregrinus anatum*)

Status Federal: None (Delisted 8/99)

State: Endangered

FS R-6: Sensitive, Identified as Management Indicator Species (MIS)

**Determination: "no impact" to peregrine falcons or their habitat.**

Status Background: Following a global population depression and the near total disappearance of the American peregrine falcon (*Falco peregrinus anatum*) from habitat throughout much of the United States, largely as a result of environmental contamination (Cade et al. 1988, USFWS 2003), the peregrine was listed as endangered in 1970 under the Endangered Species Conservation Act of 1969 (precursor to the ESA) and subsequently listed under the ESA in 1973. After meeting a variety of objectives listed in regional recovery plans, the peregrine was removed from the ESA list of endangered species on August 25, 1999. Since that time monitoring results suggest that population growth has continued throughout the lower 48 states (USFWS 2003).

Habitat: In the Pacific states, preferred peregrine falcon nesting sites are sheer cliffs 150 ft. or more in height with horizontal ledges (USFWS 1982). On the Willamette National Forest, cliffs with potential for nesting by peregrine falcons include those that are at least 75 feet high, have horizontal ledges, ledges with overhangs or cave-like openings, have sheer faces inaccessible to ground predators and within .5 miles of riparian habitat (USDA 2000). Peregrine falcons feed almost exclusively on birds, many of which may be associated with riparian zones, large bodies of water or an abundance of snag habitat. Small birds on which peregrine falcons feed are present in drier open areas, particularly where hardwood shrubs and trees are abundant. Some avian prey species select for closed coniferous forest. Peregrine falcons can forage widely for prey and will hunt over closed coniferous forest canopies as well as in open areas and over hardwood patches - wherever prey is abundant (Cade et al. 1988).

Pre-field review: There is no suitable peregrine nesting habitat within or immediately adjacent to the project area.

As a result of annual site monitoring, adult and young peregrines from the nearby nest sites are known to forage for avian prey in and near the project area. Young peregrines may linger in this type of habitat

while dispersing from a nest site. Proposed activities would not modify or disturb any suitable peregrine nesting habitat. All proposed activities would either occur outside the peregrine breeding season (January 1- July 31) entirely, or late in the breeding season and at a sufficient distance from nesting habitat such that any disturbance potential would be avoided (Pagel 1992, USDA 2002).

Field reconnaissance: There are no known peregrine nest sites within the project area. However, surveys of potential habitat continue in adjacent areas.

Formal breeding bird surveys have not been conducted within the planning area. The complete range of avian prey species that may currently occur in habitat throughout the project area is unknown, but expected to be typical for habitat associated with this area (O'Neil et al. 2001

Risk Assessment:

Project Effects: No suitable peregrine nesting habitat will be modified by this project. Due to the location and timing of proposed activities there should be no direct or indirect effects to peregrines from disturbance that would influence breeding, foraging, or dispersal behavior.

Felling of individual trees may modify or disturb habitat suitable for use by some potential peregrine prey species. Because tree felling would occur in late summer, habitat modification or disturbance would occur outside the breeding seasons for most prey species that could be utilizing affected habitat. Modification or disturbance activities are considered relatively insignificant considering the overall amount of foraging habitat within immediate project area.

Cumulative Effects: Utilization of foraging habitat for peregrines as more emphasis is placed on recruitment of key structural components missing from harvested stands, retention of key structural components present in unharvested stands, and restoration and maintenance of special habitats as key components of biodiversity at a landscape level should positively influence occupancy of suitable nesting habitat by peregrines.

Analysis of Significance: This project does not propose any activity that would modify suitable peregrine falcon nesting habitat, and activities that could result in disturbance to peregrines by influencing either breeding or foraging behavior are not expected to occur due to spatial and temporal factors. Ongoing monitoring of potential habitat adjacent to the planning area would help to document occupancy and breeding success. It is therefore determined this project should have **no impact on peregrine falcons and their habitat.**

Communication with U.S. Fish and Wildlife Service: Not required.

Recommendations: None warranted.

### 3) Northern Bald Eagle (*Haliaeetus leucocephalus*)

Status Federal: None (Delisted 6/07)  
FS R-6: Sensitive, Identified as Management Indicator Species (MIS)

**Determination: "no impact" to bald eagles or their habitat.**

Bald eagles requires habitat consisting of scattered old-growth conifer trees in proximity to available food sources, such as lakes, reservoirs, and rivers (USDI 1990).

#### **Conflict Determination**

Potential nesting, foraging, and roosting habitat exists in the vicinity of Lost lake. Foraging habitat exists near big lake.

#### **Habitat Trends**

Bald eagle habitat is increasing in the area as stands continue to develop old growth structures. Water quality in the lakes is currently high, and this is expected to continue.

#### **Direct/Indirect and Cumulative Effects**

No Action Alternative: There are no expected affects to bald eagles associated with implementation of the no action alternative. In the absence of disturbance from wildfire, young stands will continue to succeed into mature forests, providing additional nesting structures in the future

Action Alternatives: There are no expected affects to bald eagle occupied nesting habitat, since there are no known nest sites in the proposed project area.

Yearly surveys of potential nesting habitat within this landscape will continue.

Conclusion: No adverse affect to individuals or population.

### 4) Wolverine (*Gulo gulo*)

Status: Federal: None  
State: Threatened  
FS R-6: Sensitive

**Determination: "no impact" to wolverine or its habitat.**

Status Background: The Santiam Pass Summer Motorized Recreation Project is within the recognized historic and current range for the wolverine (*Gulo gulo (luscus)*) which was petitioned for federal listing under the Endangered Species Act (ESA) in July 2000. On October 21, 2003 the U.S. Fish and Wildlife Service (FWS) issued a 90-day Finding for a Petition To List as Endangered or Threatened Wolverine in the Contiguous United States. In that finding it was determined that the petition did "not provide substantial information indicating that listing may be warranted". An earlier (1994) petition to list the wolverine was found to be "not warranted" by FWS.

Taxonomy can lead to confusion when assessing the status of this species and its historic or current potential occurrence in these watersheds. Sighting records frequently include the name "California Wolverine". However, the validity of such a nominal subspecies has been questioned or is not recognized throughout much of the published literature devoted to addressing this species (Banci 1994, Johnson and O'Neil 2001, NatureServe 2005, Verts and Carraway 1998). Therefore further references to wolverine in this document are intended to be interpreted as *Gulo gulo*.

Records show that the wolverine has been listed on the Regional Forester's Sensitive Animal List for at least the past fifteen years. The wolverine was one of the original species classified as threatened by the Oregon Fish and Wildlife Commission in 1975. The status of the species was reviewed in 1988 (Marshall 1988) and as a result of that review wolverine are currently listed as threatened under the Oregon Endangered Species Act.

Habitat and Ecology: A large block of literature has been published in the past decade pertaining to the biology, ecology, and management of wolverine (Banci 1994, Claar et al. 1999, Copeland 1996, Heinemeyer et al. 2001, O'Neil et al. 2001, Verts and Carraway 1998). This is not meant to suggest that all aspects of the ecological relationships between this species and its environment are well understood. On the contrary, some relationships such as responses to human disturbance are just beginning to be understood based on a scientific rather than anecdotal context (Joslin and Youmans 1999; Rowland et al. 2003). The following is a gross summary of wolverine ecology considered pertinent to the presence of this species in the vicinity of the project area. The reader is strongly encouraged to reference the literature for a more thorough understanding of this species.

The wolverine has been referenced as the largest-bodied terrestrial mustelid (Banci 1994) with a body weight three to four times greater than the fisher despite having a similar overall body length. Its robust appearance allows adults to be described as resembling a small bear.

O'Neil et al. (2001) list the wolverine in Oregon as associated with 26 forest structural conditions, 11 habitat types, 17 habitat elements, and as serving 5 key ecological functions within the identified associations. Overall data do not support any statistical association between the species and a particular vegetative community – a fact reflected by O'Neil in attaching a low confidence to all associations listed for structural conditions and habitat types. Forested habitats used by wolverines appear to vary geographically and seasonally in areas where they have been studied (Claar et al. 1999). Habitat preferences have been linked to areas based on the availability of food and low human occurrence. The most specific habitat need of wolverines may be for female denning habitat secure from human disturbance (Copeland 1996) throughout the breeding season, which can range from November through April (Banci 1994).

Current definition and subsequent identification of suitable wolverine habitat has evolved largely from Copeland's (1996) study of a wolverine population in central Idaho. Because of a widely published concern regarding the sensitivity of wolverines to human disturbance at natal den sites (Banci 1994, Claar et al. 1999, Copeland 1996, Krebs and Lewis 1999, Lyon et al. 1994, Youmans 1999a), there seems to be scientific consensus that identification of female denning habitat is key to managing for this species where it is likely (or known) to occur. Following that logic the Willamette National Forest created a GIS layer in 1998 based on criteria provided by the Regional Office in an effort to identify potential denning habitat. Habitat generally described as areas having a northerly aspect for higher elevation cirque landscape features with a large boulder/talus component and a relatively open canopy was mapped across the Forest.

Wolverine are generally described as opportunistic omnivores in summer and primarily scavengers in winter while they utilize extremely large home ranges in proportion to their body size. Adult wolverine home range sizes average 148mi<sup>2</sup> for females and 610mi<sup>2</sup> for males (Copeland 1996). They are capable of foraging widely (30-40 km) on a daily basis, and do not significantly use young, dense stands of timber or clearcuts (Banci 1994). Virtually all studies that have investigated food habitats for the species have shown wolverine to be closely associated with a dependency upon the availability of large mammal carrion to balance its energy budget during critical periods of its lifecycle.



Pre-field Review: Habitat conditions during the reference era in watersheds surrounding the project area favored the likelihood of occupancy by wolverine as it is located well within the historic range for this species, and would have been relatively free from human disturbance – especially during the breeding season. Then, as now, population densities would be expected to have been low given our current understanding of wolverine ecology.

An issue regarding the reliability of current and historical presence of species such as the wolverine based on anecdotal records considered to be unverifiable has been raised (Aubry and Lewis 2003; McKelvey et al. 2002; McKelvey et al. 2000). The issue is associated with using such observational data combined with verifiable records to arrive at conservation actions and management recommendations. While some investigators believe combining such occurrence records results in scientific and legal vulnerability, others apparently do not (Rowland et al. 2003). Based on historic and current information, this analysis assumes the potential for wolverine to utilize habitat associated with this project for one or more of its biological requirements.

Field Reconnaissance: This project is located on a prominent landscape feature providing a westerly extension to upper elevation habitat connected to a vast remote area of the Western Oregon Cascades. The 1998 habitat mapping revealed small patches of potential denning habitat located to the north and south of the project area. Rocky outcrops associated with some potential habitat are visible from various locations within the project area. Most potential denning habitat is considered to be relatively free of human disturbance from winter recreation activities throughout much of the breeding season. However, winter activities such as cross country skiing and snowmobiling can be expected to occur periodically in surrounding areas. Although currently small in scale, these types of winter recreation do have potential to disturb wolverine – particularly a female that may be utilizing nearby denning habitat. This project and surrounding areas are open to a variety of human recreation activities throughout the remainder of the year. Activities such as hiking, horse back riding, and pleasure driving are considered to have less potential to disturb any wolverine that may be simply foraging or dispersing through nearby habitat.

Risk Assessment:

Project Effects: No denning habitat exists in the project area. There exists some winter dispersal and foraging habitat however, because this project is a summer recreation project, there are no recognized direct or indirect effects to this species associated with the project.

Cumulative Effects: No summer habitat therefore no cumulative effects.

Analysis of Significance: This project does not propose any activity that would modify or otherwise disturb potential wolverine denning habitat. Considering the wide-ranging nature of daily movements associated with wolverine foraging and/or dispersal behavior along with the low likelihood of occurrence and timing of project activities, this project should not result in disturbance to the species. It is therefore determined this project should have **no impact to wolverines or their habitat.**

Communication with U.S. Fish and Wildlife Service: Not required.

Recommendations: None warranted.

#### 4) Pacific Fringe-tailed Bat (*Myotis thysanodes vespertinu*)

Status: Federal: None  
State: None  
FS R-6: Sensitive

#### **Determination: "no impact" to individuals or habitat for Pacific Fringe-tailed bats**

Habitat: The Pacific fringe-tailed bat was added to the Regional Forester's sensitive animal list in November 2000 based on the Natural Heritage Ranking for the species. This species is one of the three named sub-species of fringed myotis (*Myotis thysanodes*), which is among the bat species whose specific habitat needs are addressed under a Northwest Forest Plan standard and Guideline (2001 ROD pp 37-38).

This bat is considered a riparian associate species that has been associated with mixed-conifer forests having relatively dry moisture regimes in the Coast Range and southern Cascade Range of Oregon (NatureServe 2005, O'Neil et al. 2001). Other scattered locations occur in the Washington Cascades and into California and the desert Southwest. They may occur from near sea level to above 4000' in Oregon and utilize a wide range of habitats – from forested to non-forested (Hayes 2003, Verts and Carraway 1998). Foraging behavior specific to this species is poorly documented, however they have been described as aerial foragers and hovering gleaners (O'Neil et al. 2001). Maternity sites, hibernacula, and most documented individual roost sites for fringed myotis occur in rock crevices, caves, or anthropogenic structures. However Weller and Zabel (2001) recently published data that show a significant amount of individual roosting occurring in trees/snags when this species occurs in or near forested habitat. Structures associated with live trees or snags have since been recognized as the primary roost structures for this species when it occurs in/near forested habitat and features associated with caves, mines, bridges or buildings may serve as primary roost structures in non-forested habitat (Hayes 2003). Knowledge of roosting behavior is almost exclusively based on data obtained during the breeding season for this species which likely extends from May through August (O'Neil et al. 2001).

Pre-field Review: The potential exists that at least single individuals may utilize available forage and roost habitat throughout the summer and early fall in or adjacent to areas where proposed project activities would occur.

Field Reconnaissance: Formal bat surveys within the project area have not been conducted. There are no caves, mines, or abandoned wooden bridges and buildings that would serve as suitable hibernacula nor are there known roost sites associated with other structures within 250 feet that would be affected by proposed activities. Some snags and decadent trees occurring adjacent to proposed activities contain features suitable for roost use by bats – including *Myotis thysanodes*.

#### Risk Assessment:

Project Effects: This project fell trees within a size class considered to provide potential as roosting habitat for *Myotis thysanodes* (Weller and Zabel 2001). Measures will be taken to protect snags or decadent trees adjacent to the project trees that may provide roosting habitat. Project activities proposed should not compromise roosting or foraging opportunities for any individual to any estimable extent, and therefore should not result in any direct effect to Pacific fringe-tailed bats.

Cumulative Effects: Current Standards and Guidelines governing management of the landscape in watersheds surrounding the project area provide direction that should provide for long-term maintenance of amount and distribution of suitable habitat for *Myotis thysanodes*. Because of the range and location

of land allocations in this area, it is unlikely that cumulative effects would influence the ability of local populations to persist, or become established, by eliminating demographic linkages beyond the species dispersal capabilities. The cumulative effect of this project on roosting or forage habitat as it pertains directly to this species would be immeasurable on a landscape scale.

Analysis of Significance: There is no known threat to hibernacula or maternity roosts from activities proposed under this Project. Suitable roosting habitat adjacent to the project areas should not be affected by this proposal, and activities that could result in disturbance to this species by influencing either roosting or foraging behavior are not expected to occur. It is therefore determined this project should have **no impact on Pacific fringe-tailed bats and their habitat.**

Communication with U.S. Fish and Wildlife Service: Not required.

Recommendations: Protect decadent trees and snags >12" dbh (roosting habitat) adjacent to the project area to the greatest extent feasible while conducting restoration activities.

#### **5) Crater Lake Tightcoil (*Pristiloma arcticum crateris*)**

Status: Federal: None  
State: ODFW none / Natural Heritage S1  
FS R-6: Sensitive / Survey and Manage Species

#### **Determination: "no impact" to individuals or habitat for Crater Lake Tightcoil.**

Status Background: The Crater Lake tightcoil has been listed as a Survey and Manage species since the 1994 Northwest Forest Plan ROD (USDA, USDI 1994). Under the 2001 ROD (USDA, USDI 2001) it was classified as a Category B species. The species was changed to a Category A species following the 2002 Annual Species Review where it remains considered rare, and for which pre-disturbance surveys are practical if habitat is present. It was added to the Regional Forester's sensitive animal list in July 2004.

The species is endemic to Oregon, and known to occur above 2000 feet elevation throughout the Oregon Cascades from the Mt Hood National Forest south to the Winema National Forest. As of August 2005 specimens had been confirmed at approximately 160 sites from very limited locations across this range (Duncan 2004, NatureServe 2005).

Habitat and Ecology: *Pristiloma arcticum crateris* "may be found in perennially moist situations in mature conifer forests and meadows among rushes, mosses and other surface vegetation or under rocks and woody debris within 10 m. of open water in wetlands, springs, seeps and streams, generally in areas which remain under snow for long periods in the winter. Essential habitat components include uncompacted soil, litter, logs, and other woody debris in a perennially wet environment." (Duncan 2004).

This species is among many organisms functioning as primary and secondary consumers that contribute to soil building and dissemination of spores and microbes. Having very limited dispersal capabilities on their own, they may be assisted in dispersal by other vectors capable of transporting mud that may contain eggs or adults across distances into suitable habitat (Duncan et al. 2004). An example of such dispersal could be individuals in mud transported on the hoof of a deer or elk.

Loss or degradation of suitable wetland habitat has been identified as the major threat to this species.

Pre-field Review: Prior to 2005 the presence of the Crater Lake Tightcoil had not been documented on the Willamette National Forest. However in May 2005 a specimen that has since been confirmed to be *Pristiloma arcticum crateris* was collected on the Middle Fork Range District south of this project area.

Nevertheless, based on habitat described in an established survey protocol for this species (Duncan et al. 2003) it is considered that suitable habitat for Crater Lake Tightcoil exists within the project area.

Field Reconnaissance: Based evaluation criteria to determine the need to conduct a survey, surveys for Crater Lake Tightcoil are not considered to be required for this project. This consideration is made because perennially wet habitat will not be degraded or removed with this project. For this reason the persistence of the species if present in the project area should not be compromised.

Risk Assessment:

Project Effects: Because measures will be taken to protect suitable habitat for this species against disturbance or modification from effects associated with proposed activities, there are no recognized direct or indirect effects to this species or its habitat from the project.

Cumulative Effects: Because measures will be taken to protect suitable habitat for this species against disturbance or modification from effects associated with proposed activities, there are no recognized cumulative effects to this species or its habitat from the project.

Analysis of Significance: Suitable habitat for the Crater Lake Tightcoil exists in portions of the project area, however measures will be taken to protect this habitat where it occurs against disturbance or modification from effects associated with proposed activities, therefore there should be **no impact to Crater Lake Tightcoil or its habitat** from this proposal.

Communication with U.S. Fish and Wildlife Service: Not required.

Recommendations: Ensure that measures identified to prevent habitat disturbance within 10 meters of perennially wet areas.

This document was prepared by:

/s/ Shane D. Kamrath Date: 7/27/2007

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**Appendix 1:** Literature referenced during this biological evaluation to arrive at determinations regarding potential effects/impacts from proposed projects and activities.

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