

<b>File Code:</b>	2670 T, E, and S species	<b>Date:</b>	27 October 2006
<b>Route To:</b>	Project File		
<b>Subject:</b>	Terrestrial Fauna Biological Evaluation (BE) for South Fork Mckenzie Enhancement and Protection 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 **may affect, but are not likely to adversely affect** 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**
- **Wolverine**
- **Pacific Fringe-tailed Bat**
- **Crater Lake Tightcoil**
- **Harlequin Duck**

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 restoration activities.

### Peregrine Falcon

- Seasonal restriction on activities associated with project that generate above-ambient noise levels during the nesting period between January 1 – July 15.

Harlequin Duck

- Seasonal restriction on activities associated with project during the nesting period between April 1 – June 30.

**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 a habitat restoration 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.

**Project Location and Description**Alternatives:

The South Fork McKenzie Enhancement and Protection Project will be analyzed in an Environmental Analysis that reviews two alternatives – an action Alternative and a No Action alternative.

*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 affect some terrestrial TES species could occur as a result of this project. That potential is addressed later in this BE.

*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.

**Watershed Analysis / Additional Document Support**

Proposed activities respond positively to recommendations made to address fisheries resources in the South Fork McKenzie River (USDA 1994a) Watershed Analysis.

**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 enhancement and protection 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
Northern Spotted Owl <i>Strix occidentalis</i>  <b>Status: Federally Threatened</b>	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 (> 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/ > 2 canopy layers; overstory trees > 21" DBH; abundant snags/down wood; and a 60-80% canopy closure. Dispersal habitat = forest w/ > 11" DBH trees and > 40% canopy closure. Numerous sightings and occupied territories recorded on the Mckenzie River RD.
Northern Bald Eagle <i>Haliaeetus leucocephalus</i>  <b>Status: Federally Threatened</b>	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.
Least Bittern <i>Ixobrychus exilis</i>	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.
Bufflehead <i>Bucephala albeola</i>	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.
Harlequin Duck <i>Histrionicus histrionicus</i>	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.
American Peregrine Falcon <i>Falcon peregrinus anatum</i>	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.
Yellow Rail <i>Coturnicops noveboracensis</i>	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>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 summer records in the Santiam Pass area, Linn County, which suggests breeding in that area..</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. Larvae 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 South Fork McKenzie Enhancement and Protection Project Action Alternative.

	<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?</b> <b>Action Alt</b>	<b>Effects / Impacts</b> <b>Action Alt</b>	<b>Consul-tation?</b> <b>BA<sup>1</sup>/BO<sup>2</sup></b>
Northern Spotted Owl <i>Strix occidentalis caurina</i>	B,R,F,D	Assumed Occupied	Potential Conflict	NLAA Seasonal restriction Mar 1-July15	2006/ 2007/2008
Northern Bald Eagle <i>Haliaeetus leucocephalus</i>	F			NE Adjacent to Foraging cooridor	NA
Least Bittern <i>Ixobrychus exilis</i>	No			NI	
Bufflehead <i>Bucephala albeola</i>	No			NI	
Harlequin Duck <i>Histrionicus histrionicus</i>	B	Occupied	No Conflict	NI Seasonal Restriction Apr1 – June 30	
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	Unknown	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 boylli</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			BI	
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.

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

BI = Beneficial Impact

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: "may affect, not likely to adversely affect" 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.

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: Most 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 must be assumed occupied. Project areas are not within a Late Successional Reserve or designated Critical Habitat Unit for spotted owls.

Only specific individual trees will be tipped over with this project. No suitable habitat acres will be modified by this project, 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. Effects to individual spotted owls that may be present in adjacent suitable habitat are limited to some potential for disturbance from noise-generating activities during the non-critical portion of the breeding season.

**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 tip over the identified 40 trees. These trees were surveyed on the ground to ensure they were not good candidates for suitable spotted owl habitat. However because this project does propose some activities that could result in disturbance to individual spotted owls during the non-critical portion of the breeding season, it is determined that implementing the Action Alternative **may affect, but is not likely to adversely affect northern spotted owls**. This project will have **no effect on designated critical habitat**.

Communication with U.S. Fish and Wildlife Service: Consultation for effects from proposed activities is incorporated in the Willamette Province FY 2007-2008 Disturbance BA dated 2006. The USFWS issued their LOC for effects to spotted owls from this type of project within the Willamette Province (FWS *reference*: 1-7-06-I-0192).

Recommendations: 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.

## 2) Harlequin duck (*Histrionicus histrionicus*)

Habitat: Harlequin ducks use rivers, streams, and creeks as feeding habitat and commonly nest in bank cavities. Log jams and overhanging vegetation are most important along smaller streams whereas islands and mid-stream boulders are used for security cover on larger rivers (Wallen and Groves 1989). Harlequin ducks feed on aquatic insects, crustaceans, mollusks, tadpoles, and small fish. Macroinvertebrate levels may play a role in determining harlequin duck population densities.

Breeding ducks appear to require clean, fast-moving water, nearby loafing sites (consisting of exposed rocks, logs, or root wads), dense riparian shrubs and/or timber on the banks, and undisturbed drainages

(Cassirer and Groves, 1989). A number of authors have suggested that brood rearing areas do not correspond to nesting locations, and that broods move downstream from nesting areas (Wallen 1987; Cassirer and Groves 1989). Broods prefer lower gradient streams not less than 10 m in width, with overhanging vegetation, and plentiful woody material (Cassirer and Groves, 1989).

Several studies have pointed to the need for an absence of human disturbance in harlequin duck breeding habitat (Cassirer and Groves 1989), or observed an adverse impact of human activities on nesting ducks (Wallen 1987, Genter 1992). One study reported 90% of pairs observed within 300m of roads, residences, campgrounds, or trails (Schirato and Sharp 1992) but it is not yet clear whether this pattern only reflects the increased frequency of observers as opposed to an increased frequency of the duck in these areas.

Pre-field review/Field reconnaissance: Harlequin ducks have been seen with on the Southfork of the McKenzie River.

Analysis of effects: Harlequin ducks are vulnerable to increases in water temperature, fluctuations in water levels, and sedimentation. These physical characteristics determine the aquatic life situation that this duck feeds upon. Existing water quality is expected to be maintained.

Cumulative effects: None.

Conflict determination/risk assessment: No impact with seasonal restriction.

Recommendations: Apply a seasonal restriction between April 1-June 30.

Communications with U.S. Fish and Wildlife Service: Not required

### **3) 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. The project area is within the secondary and tertiary zones of two known peregrine nests (OE-59) and (OE-12).

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: The peregrine nest sites associated with the project area have been monitored annually throughout the breeding season since its discovery in 1997 and 1991 respectively. The sites has been occupied annually since that time, and have successfully fledged two young during the 2006 breeding season.

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.

Tipping of individual trees may modify or disturb habitat suitable for use by some potential peregrine prey species. Because tree tipping 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 management zones established for the known peregrine nest sites (approximately 26,000 acres).

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. A seasonal restriction will be in place from January 1 – July 15 to avoid disturbance to the birds.

In addition, annual monitoring of the nest sites will occur 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.

#### **4) Wolverine (*Gulo gulo*)**

Status: Federal: None  
State: Threatened  
FS R-6: Sensitive

**Determination: "no impact" to wolverine or its habitat.**

Status Background: The South Fork McKenzie River watershed 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 mustleiid (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 numerous small patches of potential denning habitat located to the east 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 or 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:** This project proposes no activities that would result in modification or disturbance of potential natal denning habitat. Project activities should not compromise foraging or dispersal opportunities for any individual to any estimable extent. For these reasons there are no recognized direct or indirect effects to this species associated with the project.

**Cumulative Effects:** If security of natal denning habitat from human disturbance is critical for the persistence of wolverine in an area, the ability of this species to occupy otherwise suitable habitat in this area has likely been compromised by activities not associated with this project. Road building has allowed a variety of motorized and non-motorized winter recreation to extend into many areas surrounding the project area that were not historically readily accessible. Cumulative effects associated with human disturbance in the form of winter recreation have negatively influenced suitability of many areas to support denning activity.

If access to areas where wolverine may depend on larger mammals as a food source during critical times of the year is another factor influencing the persistence of this species in an area, wolverine have likely benefited from past harvest activity that has resulted in a wider distribution of forage habitat for big game. During the past decade however, harvest practices have changed and this positive contribution is waning rapidly as forage units regenerate into hiding cover.

The cumulative effect of this project as it pertains directly to big game and indirectly to wolverine will be positive, but immeasurable on a landscape scale.

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.

**5) 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 habitat restoration 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 treatment areas contain features suitable for roost use by bats – including *Myotis thysanodes*.

Risk Assessment:

Project Effects: This project proposes to tip 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. Enhancement activities proposed by this project 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.

#### **6) 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. In addition, existing roads will be used for access. 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: October 27, 2006

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