

Appendix C

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Subject:	Terrestrial Wildlife Report for: South Fork Mckenzie Enhancement and Protection Project -		
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INTRODUCTION

This report serves to document potential impacts to terrestrial wildlife designated as Survey and Manage (USDA 1994, 2001) and Management Indicator Species (USDA 1990) plus other wildlife and associated habitat that may occur in or near the project. A separate Biological Evaluation (BE) addresses effects to Threatened, Endangered and Sensitive (TES) fauna species.

PROJECT LOCATION AND DESCRIPTION

The project is located along the upper South fork Mckenzie River between Homestead campground and Elk creek confluence, a distance of 7.5 miles, and along Roaring River from its confluence with the South Fork Mckenzie River, to near Roaring River Campground, a distance of 0.5 miles. This project is located in Lane County, Oregon on the Willamette National Forest.

Purpose and Need for Action

The purpose for action is to enhance habitat and water quality conditions for spring Chinook salmon and bull trout to meet direction in the Willamette National Forest Plan as amended, and move toward recovery of both Threatened species as directed by the Endangered Species Act.

The need for action was documented in findings of the South Fork McKenize Watershed Analysis (USFS 1994) where loss of early life habitat for bull trout and spring Chinook salmon in the upper South Fork McKenize River and lower Roaring River was found. Recommendations from the South Fork McKenize Watershed Analysis place highest priority on recovery of aquatic habitat in the South Fork McKenize River. As a Tier 1 Key Watershed, the South Fork McKenize River is highest priority under the Northwest Forest Plan for protecting and restoring aquatic habitat.

This project is needed to restore habitat prioritized by McKenize sub-basin partners in the McKenize Watershed Council (MWC). Sub-basin assessments conducted by the MWC found the lower McKenize River and South Fork McKenize River as highest priority for restoration though Ecosystem Diagnosis and Treatment (EDT) evaluation.

Currently, a permanent trap-and-haul facility is planned by Army Corps of Engineers to collect adult spring Chinook salmon and bull trout below Cougar Dam. The facility will reconnect, through physical transport, migrating spring Chinook and bull trout to the river above the dam. Utilization of naturally produced and migrating spring Chinook and bull trout is expected to benefit South Fork McKenize specific fish populations and assist in perpetuating local adaptation. The Cougar Dam trap-and-haul facility is expected to be complete in 2008.

Proposed Action

The District Ranger on the McKenize River District proposes to supplement in-stream large woody material in the South Fork McKenize River and lower Roaring River. Repositioning previously placed restoration wood with implementation of the project would occur. The proposed action includes closure of 12 non-system roads to protect water quality in the project area. Implementation of this proposal, listed within this document as Alternative A, would occur beginning summer 2007.

Alternative A – Proposed Action

The South Fork McKenzie River Enhancement Project proposes supplementation of existing woody material to act as flow deflection and develop off-channel habitat. The large woody material (LWM) would be placed in the South Fork McKenzie and Roaring River channel upstream of Homestead Campground. Existing large woody material would be supplemented with trees selected from the adjacent Riparian Reserve, and with imported woody material from nearby upland sources. The collection and staging of LWM from an upland source will be evaluated as part of this project. The purpose of importing woody material is to supplement an existing low density of large woody material in the South Fork McKenzie and Roaring River. Currently, the density is 29 pieces of large wood per mile (>24 inch diameter by 50 foot length) in the enhancement reach. The reach between Homestead Campground and Elk Creek confluence is approximately 8 miles long, and is known rearing habitat for spring Chinook salmon (offspring of adult salmon transported above Cougar Dam by Oregon Department of Fish and Wildlife [ODFW]) and bull trout. The low volume of sources of flow deflection is known to limit the opportunity for the South Fork channel to migrate laterally and develop off-channel habitats important to bull trout and spring Chinook salmon.

Techniques to place the woody material would be used to minimize impacts to other resources. Cables would be used to pull over live trees from the Riparian Reserve. Pulled over trees would function as “key features” by providing stability for wood accumulations. Equipment used to tip live trees would work from Rd 431, Rd 1964 and non-system roads. Following placement of key features, material would be imported using helicopter, or by hand-crews, to form an accumulation. Helicopter or hand-crew placement provides full suspension to place imported material and presents minimal disturbance of the river bottom and adjacent riparian area. By importing approximately 280 pieces of LWM, the proposed final density of large woody material would be about 80 pieces in the 8.5 mile enhancement reach.

Forty trees would be utilized from the adjacent Riparian Reserve to serve as “key” features behind which imported material would stabilize. Key features are large diameter trees, with root mass attached, selected for their ability to remain stable during most high flow events. The live trees selected to serve as key features are located at distances from the channel from stream bank to 50 feet from the active channel. The size of tree selected for key features ranges from 22 to 52 inches in diameter at breast height, averaging 32 inches in diameter. The trees selected for restoration of in-stream wood are dispersed through the 8.5 mile enhancement reach on each bank. Twenty-six trees are located along the left bank, looking downstream (Rd 431 and Rd 1964 side), and fourteen along the right bank (Rd 19 side). Once key features are in place in the channel, helicopter and/or hand-crew placement of imported material would occur. Project implementation is planned to occur beginning in summer season 2007 and is dependent upon equipment and crew availability. Tree tipping would occur during early summer and helicopter and/or hand-crew placement would occur following key wood placement, during late summer 2007. Material would be added upstream of each key piece of woody material, to mimic natural accumulations or jams. Woody material jams would consist of 2-8 piece accumulations. Numerous opportunities exist for channel spanning accumulations. All placement activity would occur during the ODFW in-stream work period for the South Fork McKenzie River, July 15 through August 15, to minimize impacts to wildlife and fisheries.

A helicopter landing for refueling and service would be located on Road 985 landing. Road 985 is ¼ mile long, located adjacent to Roaring River. A spill containment structure would be required of potential helicopter use of Rd 985 landing. Restoration material would be staged in landings on Rd 425, Rd 429, Rd 431, Rd 1964 and Rd 414. Restoration material destined for helicopter transport to the enhancement reach would be collected from road-side salvage and existing stockpiles and would consist of whole trees with root-mass intact and root-less tree boles. Enhancement material would be flown directly from the staging site to the river reach. A Flight Safety Plan and Spill Plan will be required

prior to flight operations. Timing requirements for implementation are estimated at 3-4 days for placement of stream adjacent trees and 1-2 days for aerial placement of staged material. Equipment cleaning precautions will be utilized to avoid potential introduction or spread of noxious plants from ground based equipment. Seasonal operation restrictions will be used to avoid disturbance of wildlife and fisheries resources. Maintenance of previous in-stream enhancement project work would be accomplished with this proposal. Project work completed during 1996 and 1998 would be repositioned by helicopter or hand crews. Approximately 400 pieces of large woody material would be repositioned in the 8 mile South Fork McKenzie. Smaller sized material may be placed by hand to minimize disturbance to riparian and aquatic habitat. Previously placed small material that can be handled by a crew of 6-8 would be lifted from nearby river banks and transported to a channel destination. The option of using hand crews or helicopter in placing small material (500-800 pounds in weight) is dependent upon crew and equipment availability.

Large woody material placed in the restoration reach will not be attached by artificial means such as cable. The placement of whole trees, with a portion on the bank, particularly trees with root-mass intact, is expected to contribute to in-stream structure stability. A pre-project examination of the restoration reach was made through low elevation photography in anticipation of the project. Currently existing large wood was tagged during field surveys conducted by Oregon State University (September 2001). All material of natural and human-placed origin and side channel development would be monitored through periodic low elevation aerial photography.

Treatment of 12 non-system roads through road closure or campsite containment would result in alteration of access to 12 dispersed campsites. Road accesses that travel through the South Fork McKenzie and Roaring River floodplains would be modified to exclude vehicle entry into stream channels and wet areas. Treatment would involve containment of vehicle access using boulders or berm. A seedbed on road surfaces would be prepared through scarification or ripping. Approximately 3,000 feet of road surfaces would be seeded and planted using native plants following soil preparation. Several campsites require rehabilitation to address degraded site conditions, such as denuded stream banks, eroding soils and drainage problems. Proposed treatments include planting campsite perimeters, drainage improvement and water-barring, and importation of organic material to stabilize soils. There would be no change in access to 14 dispersed campsites, with modification of access to 12 dispersed campsites. The 12 dispersed campsites would continue to exist and be accessible to foot traffic.

Alternative B – No Action

The No Action alternative would not implement actions to restore in-stream large woody material in the South Fork McKenzie project area. Aquatic habitat degradation and water quality impacts presented by continuing use of non-system roads in wet areas would continue. This alternative allows existing problems such as low in-stream wood density and simplified habitat for at-risk species to continue untreated and dependant upon natural rates of input to replenish existing condition. Under the No Action alternative, current management plans would continue to guide management of the project area. The No Action alternative provides a basis for describing the environmental effects of the proposed action.

MANAGEMENT DIRECTION COMPLIANCE

Proposed action associated with this project complies with current forest Standards and Guidelines (S&Gs) pertaining to MIS and Survey and Manage Species management. 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).

SNAGS AND DOWN WOOD

The significance of the ecological role of snags and down wood in influencing ecosystem diversity and productivity is addressed in the Willamette National Forest Land and Resource Management Plan (1990). The significance of this relationship in coniferous forests of the Pacific Northwest is further emphasized by management Standards and Guidelines under the Northwest Forest Plan ROD (1994, 2001, 2004) and elsewhere throughout published literature (Hallett et al. 2001, Laudenslayer et al. 2002, Lewis 1998, Rose et al. 2001).

DecAID is a web-based advisory tool to help land managers assess impacts of forest conditions and existing or proposed management activities on organisms that use snags and down wood (Mellen et al. 2006). It is a summary, synthesis, and integration of published scientific literature, research data, wildlife databases, forest inventory databases, and expert judgment and experience. DecAID was used to query literature of down wood use in riparian areas by terrestrial wildlife.

This project would comply with Forest Plan Standards and Guidelines pertaining to snag and down wood management. Project effects would result in a negligible contribution to effects that have already occurred from past management actions on the landscape throughout the project area. There are no reasonably foreseeable future actions that would affect dead wood habitat in the project area.

The no action alternative would not involve pulling over of trees or importing wood to either create or remove standing trees or down wood. Natural processes that affect the creation and removal of snags and down wood will include insects and pathogens, wildfire, and wind events.

SURVEY AND MANAGE, AND OTHER 2001 ROD SPECIES/HABITAT (USDA, USDI 2001).

Species listed below in Table 1 were compiled from the 2003 Annual Species Review (IM-OR-2004-034) and incorporates those vertebrate and invertebrate species whose known or suspected range includes the Willamette National Forest according to the following documents: Survey Protocol for the Great Gray Owl within the range of the Northwest Forest Plan v3.0, January 12, 2004; Survey Protocol for the Red Tree Vole v2.1, October 2002; Survey Protocol for S&M Terrestrial Mollusk Species From the Northwest Forest Plan v3.0, 2003. The following list includes category A and C species; there are no known category B, D, E, or F species to consider in this area.

Table 1: Survey & Manage Wildlife Species Known or Suspected on the Willamette National Forest.

Species	S&M Category	Survey Triggers			Survey Results			Site Management
		Within Range of the Species?	Project Contains Suitable habitat?	Project may negatively affect species/habitat?	Surveys Required?	Survey Date (month/year)	Sites Known or Found?	
Vertebrates								
Great Gray Owl (<i>Strix nebulosa</i>)	A	Yes	Yes	No	No	N/A	--	No
Red Tree Vole (<i>Arborimus longicaudus</i>)	C	Yes	Yes	No	No	N/A	--	No
Mollusks								
Crater Lake Tightcoil (<i>Pristiloma arcticum crateris</i>)	A	Yes	Yes	No	No	N/A	--	No

Statement of Compliance. Pre-disturbance surveys and management of known sites required by protocol standards to comply with the 2001 Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measure Standards and Guidelines (as the 2001 ROD was amended or modified as of March 21, 2004) were completed for the Two Bee Project. There are no known Category B, D, E, and F species within the Project area.

Survey and Manage Species - Discussion:

Great gray owl (*Strix nebulosa*):

Under the 2001 amendment to the Northwest Forest Plan (USDA, USDI 1994) the status of the Great Gray Owl changed from a protection buffer species to a Category C Survey and Manage species (USDA, USDI 2001). 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.

Suitable Great Gray Owl Nesting, roosting and foraging habitat does not exist within the project area. Protocol surveys were not conducted for Great Gray Owls. There is an abundance of suitable nesting structures for Great Gray Owls throughout the project area. However, foraging areas are a limiting factor as large natural meadows with gopher activity are not present in the area. The Project will not significantly impact foraging areas and therefore, impacts to Great Gray Owls are expected to be negligible compared with cumulative impacts that have occurred from past actions such as fire suppression.

Crater Lake tightcoil (*Pristiloma arcticum crateris*):

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. This species is also included on the Regional Forester’s Sensitive Species List, and a more thorough discussion of how proposed activities may impact this species is conducted in the biological evaluation for this project.

Suitable habitat for Crater Lake Tightcoil exists within the project area. Surveys are not required for this type of project because existing roads are being used for equipment access. Protocol surveys were not conducted. 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, indirect, or cumulative effects to this species or its habitat from the project.

Red tree vole (*Arborimus longicaudus*):

The red tree vole was initially listed as a Survey and Manage species in the 1994 Northwest Forest Plan ROD (USDA, USDI 1994). In the 2001 ROD the red tree vole was classified as a Category C species. Under that classification it was considered uncommon, where pre-disturbance surveys were considered practical, and where survey requirements applied across the known or suspected range of the species. Based on survey results that revised the understanding of occurrence, distribution, and habitat use, the 2003 Survey and Manage Annual Species Review removed the red tree vole from the Survey and Manage list within the Mesic Zone portion of its range. This project is within the Mesic Zone therefore Survey and Manage requirements for this species do apply to this project. Protocol surveys were not completed for this project.

Other ROD Species/Habitat:

Cavity-nesting birds - White-headed woodpecker, black-backed woodpecker, pygmy nuthatch, and flammulated owl: The white-headed woodpecker, black-backed woodpecker, pygmy nuthatch, and flammulated owl will not be sufficiently aided by applying mitigation measures for riparian habitat protection or other elements of the Northwest Forest Plan (USDA, USDI 2001 and 2004). These four species occur primarily on the periphery of the range of the northern spotted owl on the east slope of the Cascade Range in Washington and Oregon. However they are known to occur in Westside Oregon Cascades habitat.

Surveys are not required for these species, and there is no confirmation of their occurrence from recent or historic sighting reports within the project area.

The proposed Project involves activities that could directly affect current habitat associated with dead wood or defective trees. A discussion of how proposed activities may impact this habitat component is conducted in the Snags and Down Wood section of this document.

Bat roosts – caves, mines, and abandoned wooden bridges and buildings: There are no caves, mines, abandoned wooden bridges or buildings within the project area that would need to be protected from activities associated with this project.

Project Effects and Cumulative Effects to Survey and Manage, and Other ROD Species: Activities proposed by this project include measures that maintain and protect habitat components important to support potential use by Survey and Manage, and other ROD Species. Implementing project activities as proposed should have no direct or indirect effect on these species such that their ability to persist within the project area or throughout their ranges would be compromised.

Current S&Gs governing management of this area provide direction that should ensure the long-term maintenance of amount and distribution of suitable habitat for this group of species. Project effects are likely to result in a minimal overall contribution to cumulative effects that have occurred from past actions the project area.

MANAGEMENT INDICATOR SPECIES (USDA 1990)

Background and Effects Summary: The Willamette Forest Plan has identified a number of terrestrial wildlife species with habitat needs that are representative of other wildlife species with similar habitat requirements for survival and reproduction. These management indicator species (MIS) include spotted owl, bald eagle, peregrine falcon, cavity excavators, pileated woodpecker, deer, elk, and marten. Spotted owls, bald eagles, and peregrine falcons are addressed in a separate Biological Evaluation. The other MIS have potential to occur in or near the project area and are addressed below. Activity associated with the proposed action is consistent with, or exceeds Willamette Forest Plan Standards and Guidelines as they pertain to MIS management.

Project activities could result in disturbance to MIS that may be present in or adjacent to the immediate area. However, any modification or disturbance that may occur associated with this project is not of a scale that would threaten the viability of any MIS to persist within the project area or throughout the range of these species.

Pileated Woodpecker:

Current, as well as historic, composition and structure associated with habitat type and plant associations surrounding the project area favor nesting and foraging use by pileated woodpeckers (Marshall et al. 2003, NatureServe 2005, O'Neil et al. 2001).

Effects from proposed activities previously addressed in this report pertaining to snags and down wood as habitat important to cavity nesting birds, are also relevant to how this project may affect this MIS.

Currently the Oregon Natural Heritage Program (ONHP), The Nature Conservancy (TNC), and the Oregon Department of Fish and Wildlife (ODFW) show the status of the pileated woodpecker to be secure, which may suggest the changing trend in timber management that has occurred within the past decade, and projected for the future, may positively influence occupancy of suitable habitat by this species as previously harvested stands redevelop, and more emphasis is placed on retention of key structural components in unharvested stands (USDA 1985, USDA 1994).

Elk/Deer (Big Game):

The Willamette NF Land and Resource Management Plan recognizes elk emphasis areas as either low, moderate or high. The project contains 2 high emphasis areas and one moderate emphasis area. The South Fork Mckenzie Watershed Analysis contains habitat effectiveness analysis (Wisdom et al 1986) for these three emphasis areas. Table 1 displays 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 were conducted for this area.

The analysis for these emphasis areas showed Standards for all habitat variables were being met except for forage quality in the Elk high emphasis area and forage quality and open road density in the Roaring moderate emphasis area.

Table 2. Elk Emphasis areas for the South Fork Mckenzie Enhancement and Protection Project

Name	Level	HEs	HEr	HEc	HEf	HEI
Cascade	High	.57	.51	.62	.54	.56
Elk	High	.54	.81	.65	.36	.49
Roaring	Moderate	.65	.36	.73	.32	.49

note: Willamette NF Land management Plan S&G Target Levels
 High emphasis level individual Index >0.5 Overall Index >0.6
 Moderate emphasis level individual Index >0.5 Overall Index >0.6

Current ODFW biological data are not sufficient to provide an accurate estimate of the black-tailed deer population in western Oregon (ODFW 2002). Recent ODFW elk population estimates show that state management units in the vicinity of the project area (McKenzie, Upper Deschutes) have elk herds with population numbers near their current management objectives (Bill Castillo pers com; ODFW 2003; ODFW 2005).

Project effects to big game are 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 in the affected emphasis areas. Direct and indirect effects are largely limited to potential temporary displacement of individuals occurring in habitat during implementation of proposed activities. Short and long-term effects to forage habitat will be beneficially evident within the project area. In the context of the emphasis areas, and adjacent 5th field watersheds, project effects would result in an immeasurable contribution to cumulative effects that have already occurred from past management actions surrounding the project area.

Given what is currently known about local deer and elk populations, the future viability of these species should be assured as long as habitat restoration opportunities continue to be implemented especially when conducted at an appropriate scale.

Marten:

Marten occupy a narrow range of habitat types found in or near coniferous forests. More specifically, they associate closely with late-successional stands of mesic conifers – especially those with complex physical structures near the ground such as large low snags and down wood (Chapin et al. 1997, NatureServe 2005, Ruggiero et al. 1994, Verts and Carraway 1998, Zielinski et al. 2001). Marten are known to occur within the project watersheds, and despite lack of documented presence in the immediate vicinity it should be assumed the species is likely a member of the local faunal community.

Currently the ONHP, TNC, and the ODFW show the status of this species to be secure or not immediately imperiled, which suggests species viability may be assured as long as adequate protection measures such as Standards and Guidelines governing activities proposed by this type of project continue to be implemented.

Cavity Excavators:

The significance of snags as one component characterizing both old-growth and younger timber stands, and the dependence of primary cavity excavators on this component as MIS that provide nesting and denning habitat for numerous additional species of birds and mammals (secondary cavity nesters) is addressed in the Willamette National Forest Land and Resource Management Plan (1990). The

significance of this relationship is further emphasized by management S&Gs under the Northwest Forest Plan ROD (1994, 2001, 2004) and elsewhere throughout published literature (Hallett et al. 2001, Lewis 1998, Olson et al. 2001, Rose et al. 2001).

Except for the downy woodpecker, all species of primary cavity excavators used as ecological indicators in the Willamette Forest Plan (USDA 1990) have current and/or future potential to occupy habitat surrounding the project area based on recognized associations with the Westside Lowland Conifer-Hardwood Forest (O'Neil et al. 2001).

Effects from proposed activities previously addressed in this report pertaining to snags as habitat important to cavity nesting birds, are also relevant to how this project may affect this group of MIS cavity excavators.

Activities proposed by this project include measures that maintain and protect habitat components important to support use by the group of cavity excavators listed as MIS. Implementing project activities as proposed should have no direct or indirect effect on these species such that their ability to persist within the project area or throughout their ranges would be compromised. Current Standards and Guidelines governing management of this area provide direction that promotes long-term maintenance of amount and distribution of suitable habitat for this group of species.

MIS summary:

Although proposed activities would modify some suitable habitat, and likely disturb some individual terrestrial MIS that may be present, they should not threaten the capability of any local population of these species to persist or become established in the project area. Any project effect considered negative in this regard would be short-term and minimal compared to the amount of habitat available in the surrounding landscape. Cumulative effects to MIS from proposed activities would be small in scale.

Recommendations Pertaining To MIS: For cavity excavators (including pileated woodpecker and secondary cavity nesters) and marten - recognize previous recommendations made in this report pertaining to snags and other dead wood habitat.

LAND BIRDS / NEOTROPICAL MIGRANTS

Land bird species exhibit a dramatic response to the height, seral stage, canopy structure, and spatial distribution associated with forest habitat where greater numbers of birds are associated with more complex heterogeneous forested landscapes (Altman 1999). The current amount of forested and open ecotonal habitat characteristic throughout the project area should be attractive for use by a variety of avian species (Gilbert and Allwine 1991). However effects from past management practices – specifically fire suppression – have resulted in simplification of habitat throughout this area.

Effects to Land Birds/Neotropical Migrants: Proposed activities would generally occur outside the breeding season for these species and/or at a time when many may have migrated from the area (Marshall et al. 2003, O'Neil et al. 2001, NatureServe 2005). The timing of activities would mitigate potential short-term (< 5 years) negative effects from habitat modification such as temporary loss of some potential nesting habitat, or disturbance such as temporary displacement of individuals or their prey from prescribed burning activities. The number of individuals and/or species potentially affected by proposed activities is unknown and considered unquantifiable without reliable survey data. Activities proposed by this project should not affect this group of species such that their ability to persist in the vicinity of the project area or throughout their ranges would be compromised.

Project effects to Land Birds/Neotropical Migrants are of no measurable consequence on an individual basis relative to the amount of habitat modified or disturbed against the amount available throughout the surrounding Forest. Project effects would result in negligible overall contribution, with respect to historic habitat and biodiversity, to cumulative effects that have occurred from past actions affecting the project area.

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Date 10-27-2006

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Appendix 1: Literature referenced during preparation of this report to arrive at determinations regarding potential influence of the proposal on terrestrial wildlife species and habitat.

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