SOUTH FORK ENVIRONMENTAL ASSESSMENT
BIOLOGICAL EVALUATION

FOR THOSE WILDLIFE SPECIES LISTED AS THREATENED, ENDANGERED, OR PROPOSED UNDER SECTION 4 OF THE ENDANGERED SPECIES ACT & SENSITIVE SPECIES UNDER THE REGIONAL FORESTER'S LIST

DATE: January 5, 2006

Clackamas River Ranger District
Mt. Hood National Forest

/S/ ***Sharon Hernandez*** **January 5, 2006**

Written by: _____ **Date:** _____

Sharon Hernandez, Supervisory Wildlife Biologist

EXECUTIVE SUMMARY

Forest management activities that may alter the habitat for threatened, endangered, sensitive or proposed species are required to undergo review in a Biological Evaluation (FSM 2671.44 and FSM 2670.32) as part of the National Environmental Policy Act process. The Biological Evaluation process (FSM 2672.43) is intended to document that proposed management actions will not jeopardize the continued existence or cause adverse modification of habitat for listed or proposed species, or (for sensitive species) lead towards the likelihood of Federal Listing.

The attached Executive Summary serves as documentation to display the effects of the 2005 South Fork Thin on threatened, endangered, and Forest Service Regional Forester's sensitive species that are documented or suspected to occur within the Mt. Hood National Forest. A more detailed analysis of project effects to species can be found in the body of this biological evaluation. (Note: No wildlife proposed or endangered species exists on the Mt. Hood National Forest.)

Table 1: Executive Summary: 2005 South Fork Commercial Thin

Listed or Regional Forester's Sensitive Species	Field Review – Presence of Suitable Habitat for Species	USFWS Consultation Requirements	Preferred Alternative Effects/ Impacts Call
Threatened			
Northern Spotted Owl (threatened)	*Yes*	Consultation Required	May Affect, Not Likely to Adversely Affect
Northern Bald Eagle (threatened)	*No*	None Required	No Effect
Sensitive			
Oregon Slender Salamander (sensitive)	*No*	None Required	No Impact
Larch Mountain Salamander (sensitive)	*No*	None Required	No Impact
Cope's Giant Salamander (sensitive)	*Yes*	None Required	No Impact
Casacade Torrent Salamander (sensitive)	*Yes*	None Required	No Impact
Oregon Spotted Frog (sensitive)	*Yes*	None Required	No Impact
Painted Turtle (sensitive)	*No*	None Required	No Impact
Northwestern Pond Turtle (sensitive)	*No*	None Required	No Impact
Horned Grebe (sensitive)	*No*	None Required	No Impact
Bufflehead (sensitive)	*No*	None Required	No Impact
Harlequin Duck (sensitive)	*No*	None Required	No Impact
American Peregrine Falcon (sensitive)	*No*	None Required	No Impact
Gray Flycatcher (sensitive)	*No*	None Required	No Impact
Baird's Shrew (sensitive)	*No*	None Required	No Impact
Pacific Fringe-tailed Bat (sensitive)	*Yes*	None Required	No Impact
California Wolverine (sensitive)	*No*	None Required	No Impact
Puget Oregonian*	*No*	None Required	No Impact
Columbia Oregonian*	*No*	None Required	No Impact
Evening Fieldslug*	*Yes*	None Required	May Impact Individuals, but not Likely to Cause a Trend to Federal Listing or Loss of Viability to the Species
Dalles Sideband*	*No*	None Required	No Impact
Crater Lake Tightcoil*	*No*	None Required	No Impact

*These species were formerly Survey and Manage Species and are currently classified as a Sensitive species on the Region 6 Regional Forester's Sensitive Species list for the Mt. Hood National Forest.

PROJECT BACKGROUND AND ALTERNATIVE SUMMARY

This timber sale is located within the Clackamas River Ranger District of the Mt. Hood National Forest. The stands occur within the South Fork Clackamas River, Clear Creek, and Molalla River watersheds. The proposed action (Alternative B) is to thin and harvest wood fiber from approximately 425 acres of matrix land and approximately 76 acres of riparian reserves.

The harvesting operation would utilize a variable density thinning prescription and generally remove the smaller trees, leaving approximately 80 to 140 variably spaced trees per acre. The average cut tree size would be approximately 10-15 inches in diameter. Legacy trees would be retained. (Legacy trees are scattered large mature trees that have survived a stand initiating wildfire or that have been retained in a plantation).

On the areas proposed for riparian reserve thinning, the prescription would be adjusted to create a wider spacing of leave trees. The intention is to enhance riparian reserves by accelerating the development of mature and late-successional stand conditions.

For this project, riparian reserve widths are 180 feet for non-fish-bearing streams and 360 feet for fish-bearing streams. A Design Criteria within the South Fork Environmental Assessment discusses no-harvest buffers of approximately 30 to 50 feet along streams. There are some small seeps and wet areas that would also be excluded from harvest.

If funding becomes available, 200 pounds of nitrogen per acre would be aerially applied to approximately 178 acres of second-growth plantations within the matrix. Fertilization is proposed in units 1, 3, 4, 5, and 7. Fertilization would not occur within riparian reserves.

When temporary roads are proposed to access landings they would be obliterated and revegetated after completion of the project. Where existing decommissioned or overgrown roads are proposed to be reopened they would also be obliterated. Other roads have berms or driveable waterbars that would also be temporarily removed. Upon project completion, the roads that were opened would be returned to their pre-project condition.

The following gives a brief description of the alternatives:

ALTERNATIVE A: Under the no-action alternative, current management plans would continue to guide management of the project area. No timber harvest would be accomplished under this proposal.

ALTERNATIVE B: This alternative would thin plantations by using the same logging method used for the original harvest. Old roads, landings and skid trails would generally be reused. In this alternative 295 acres would be logged using ground-based systems and an additional 202 acres would be skyline logged. Approximately 12,950 feet of old, overgrown roads would be re-opened. No new temporary roads would be built.

ALTERNATIVE C: In some instances, using the same logging methods and roads may result in impacts that could be alleviated by planning a different logging system. Alternative C would be similar to B in units where there are few resource concerns. In other units a new logging method and road system would be proposed. Since future thinning or other forest management is likely to occur in plantations, the new logging method and/or road system would be designed and located to serve long-term management and transportation needs. This alternative proposes 255 acres of ground-based logging, 235 acres of skyline, and 7 acres of helicopter logging. Approximately 12,950 feet of old, overgrown road would be re-opened and 2,300 feet of new temporary road constructed.

ALTERNATIVE D: Alternative D would be similar to C except in units where certain new temporary road construction (from alternative C) would raise the level of concern based on their length, terrain or cost. Short lengths of road construction may be included but long roads would not. In units affected by the deletion of road construction with this alternative, the units would either be logged using the original logging method, or would use helicopter or some other non-traditional method. This alternative proposes 255 acres of ground-based logging, 222 acres of skyline harvest and 20 acres of helicopter logging. Approximately 12,950 feet of old, overgrown roads would be re-opened. No new temporary roads would be constructed.

SPECIES SPECIFIC DISCUSSIONS

Northern Spotted Owl
(*Strix occidentalis caurina* – threatened)

A. HABITAT

Old growth coniferous forest is the preferred nesting, roosting and foraging habitat of spotted owls in Oregon. Old growth habitat components that are typical for spotted owls are: multilayered canopies, closed canopies, large diameter trees, abundance of dead or defective standing trees, and abundance of dead and down woody material.

Habitat for the owl is further defined as either suitable or dispersal habitat. Suitable habitat for the northern spotted owl consists of habitat used by owls for nesting, roosting and foraging (NRF). Generally this habitat is 80 years of age or older, multi-storied and has sufficient snags and down wood to provide opportunities for nesting, roosting and foraging. The canopy closure generally exceeds 60 percent. Dispersal habitat for the owl generally consists of mid-seral stage stands between 40 and 80 years of age of age with a canopy closure of 40 percent or greater and an average dbh of 11". Spotted owls use dispersal habitat to move between blocks of suitable habitat; juveniles use it to disperse from natal territories. Dispersal habitat may have roosting and foraging components, enabling spotted owls to survive, but lack structure suitable for nesting.

B. FIELD REVIEW

Habitat available on the district
The last time extensive field surveys were conducted on the District was from 1979 to approximately 1994; in which the Regional protocol per Regional Forester's direction of March, 1993 was followed. During that time period there had been many documented sightings of adults and young produced on the District. (Historic records are on file at the District office). However, none of these surveys are considered current and valid for project planning effects analysis. Current management direction is to assume that all suitable (nesting/ roosting/foraging) habitat for spotted owls is currently occupied and to manage the site accordingly.

Habitat available within the project area
Yes. Approximately 406 acres are dispersal-only habitat for the spotted owl. This habitat can be found in units 4 through 13. The remaining 91 acres in units 1 through 3 are considered capable habitat for the spotted owl (e.g. Stands that are not currently providing habitat for the spotted owl but which have the potential to grow into dispersal habitat in the future). There is no nesting/roosting/foraging (i.e. NRF or suitable) habitat proposed for harvest.

C. ANALYSIS OF DIRECT/INDIRECT EFFECTS

Alternative A (No action)
No direct effects to the owl would be predicted with this alternative. For the short term, the units that are considered dispersal-only habitat (4-13) would continue to function as dispersal. It is estimated that the units currently providing no habitat for the owl (1-3) would obtain dispersal habitat characteristics in approximately eleven years (4 years slower than in the action alternative). Long term effects within the next 40-50 years would be that the stands would start to differentiate and show an increase in the levels of snags, down wood and understory development. The quality of dispersal (i.e. foraging and roosting) habitat would increase in quality to varying degrees, but the stands would likely never achieve suitable (i.e. nesting) spotted owl habitat due to the current management direction in the area.

Alternatives B (Proposed Action), C and D

North Willamette Late-Successional Reserve Areas and Critical Habitat Units:
The proposed action will not occur within a Late-Successional Reserve (LSR) or Critical Habitat Unit (CHU). Units 1, 2 and 6 do have boundaries that are shared with an LSR. The entire sale occurs within the Matrix and Riparian Reserve Land Allocations of the Northwest Forest Plan.

Effects to Dispersal Habitat on a Local and Watershed Scale

The proposed action will have an effect on dispersal-only habitat. Ten of the proposed units (406 acres) within the South Fork Environmental Assessment are considered dispersal-only habitat. The remaining three of the harvest units (91 acres) are considered non-habitat for the spotted owl. Dispersal habitat described below is a combination of NRF and dispersal-only habitat (i.e. All NRF habitat meets the requirements of dispersal habitat).

The South Fork Thinning Project occurs within the South Fork Clackamas, Clear Creek, and Mollala Watersheds. The spotted owl analysis area that was used is 20,041 acres in size and comprises all of South Fork Clackamas Watershed and small portions of Clear Creek and Mollala Watersheds. Land ownership within the analysis area is comprised of mainly Forest Service lands with small portions of Bureau of Land Management and other ownerships. Dispersal habitat (11/40 rule - average 11 inch DBH with an average canopy cover of 40%) comprises approximately 62% (12,425 acres) of the area. The proposed action will degrade (reduce in quality) approximately 3.3% (406 acres) of the currently available dispersal habitat from the analysis area.

A recent study by Meiman et al (2004) reports changes in spotted owl use following a commercial thinning in stands near core areas in Clatsop State Forest. Although sample sizes were not large, proportional use of the thinned area was significantly less during and post-harvest operations than during the pre-harvest period. The nature of this effect is not clear, but it may include an influence on prey availability, microclimate conditions, or higher vulnerability to predation. In addition, home range expansion of one spotted owl was observed, and a shift of the core use area away from the thinned stand. These effects suggest that commercial thinning in proximity to spotted owl activity centers may have short term adverse impacts.

Since current spotted owl surveys have not been completed for the area, it must be assumed that all suitable habitat has the potential to contain spotted owl activity centers. Since there is no adequate suitable habitat adjacent to the proposed thinning stands that are currently providing dispersal habitat, there is no potential for adverse impacts to a spotted owl activity center.

Although the dispersal habitat characteristics of units 4-13 will be reduced in quality, they will still function as dispersal habitat for the owl. No loss of dispersal habitat will occur. It is estimated that these units would again provide the same quality of habitat in approximately nine years after harvest. Units 1, 2 and 3 are currently providing no habitat for the spotted owl and will benefit the most from this proposed treatment by hastening their attainment as dispersal habitat. It is estimated that these units currently providing capable habitat would become dispersal habitat in about seven years (e.g. Four years quicker than if no timber management occurred in the units). All of the units would provide for better quality dispersal habitat within approximately 15-20 years after harvest than if they had never been harvested (i.e. no action alternative). Current management direction shows that harvest operations could occur again in the units within 20-30 years, thus preventing any attainment of suitable spotted owl habitat characteristics.

Effects to spotted owl on a province scale (Willamette Province)

The United States Fish and Wildlife Service issued an opinion on the effects of the South Fork Timber Sale as well as many other projects within the document titled "Biological Opinion and Letter of Concurrence for Effects to Bald Eagles, Northern Spotted Owls and Northern Spotted Owl Critical Habitat from the U.S. Department of the Interior; Bureau of Land Management, Eugene District and Salem District, the U.S. Department of Agriculture; Mt. Hood National Forest and Willamette National Forest and the Columbia River Gorge National Scenic Area Calender Years 2005-2006 Habitat Modification Activities within the Willamette Province (USDI 2005)" The conclusion they reached is the following: "After reviewing the current status of the spotted owl and bald eagle, including critical habitat, the environmental baseline for both species, the effects of the proposed action, and the cumulative effects, it is the Service's biological opinion that the FY 2005-2006 Habitat Modification Projects in the Willamette Province are not likely to jeopardize the continued existence of the bald eagle or spotted owl and is not likely to destroy or adversely modify designated critical habitat for the spotted owl" (USDI 2005). The Service's rationale for these conclusions can be found within the Biological Opinion noted above.

Effects to spotted owl on the entire range of the species (Washington, Oregon, and California)

The Record of Decision (ROD) for Amendments to Forest Service and Bureau of Land Management Project Documents within the Range of the Northern Spotted Owl established a system of land allocations and a rate of timber harvest (probable sale quantity) that is considered to be consistent with maintaining viability for the northern spotted owl across its range (USDA 1994). The South Fork Environmental Assessment meets all the Standards and Guidelines set forth within this decision document.

It was stated on page 31 of this document that implementation of the Record of Decision would "adequately provide for the continued viability of the northern spotted owl on Federal Lands as required by NFMA and would provide federal lands contribution to recovery of the northern spotted owl under ESA."

A report was published by Sustainable Ecosystems Institute of Portland Oregon (September 2004). The report is titled "Scientific evaluation of the status of the Northern Spotted Owl."(S P Courtney, J A Blakesley, R E Bigley, M L Cody, J P Dumbacher, R C Fleischer, AB Franklin, J F Franklin, R J Gutiérrez, J M Marzluff, L Sztukowski). The Programmatic Biological Opinion applicable to this project addressed the items brought up by this report.

The report is a review and synthesis of information on the status of the Northern Spotted Owl. The report was prepared to aid the United States Fish and Wildlife Service in their 5-year status review process, as set out in the Endangered Species Act. The report did not make recommendations on listing status, or on management, and focused on identifying the best available science, and the most appropriate interpretations of that science. The focus is on information developed since the time of listing in 1990. The report relied on demography studies summarized in a report titled "Status And Trends In Demography Of Northern Spotted Owls, 1985–2003", Anthony et al.

The following excerpt is from the executive summary of the SEI report. The italicized portion below each paragraph gives project specific information on that topic.

> Central to understanding the status of the subspecies is an evaluation of its taxonomic status. The panel is unanimous in finding that the Northern Spotted Owl is a distinct subspecies, well differentiated from other subspecies of Spotted Owls. *This information was considered and incorporated when developing the assessment of effects for the South Fork project.*
>
> The panel did not identify any genetic issues that were currently significant threats to Northern Spotted Owls, with the possible exception that the small Canadian population may be at such low levels that inbreeding, hybridization, and other effects could occur. *This information was considered and incorporated when developing the assessment of effects for the South Fork project. The South Fork project would not affect Canadian owls.*
>
> The use of habitat and of prey varies through the range of the subspecies. These two factors interact with each other and also with other factors such as weather, harvest history, habitat heterogeneity etc, to affect local habitat associations. While the general conclusion still holds that Northern Spotted Owls typically need some late-successional habitat, other habitat components are also important (at least in some parts of the range). *This information was considered and incorporated when developing the assessment of effects for the South Fork project.*
>
> The available data on habitat distribution and trends are somewhat limited. Development of new habitat is predicted under some models. However our ability to evaluate habitat trends is hampered by the lack of an adequate baseline. Given these caveats, the best available data suggest that timber harvest has decreased greatly since the time of listing, and that a major cause of habitat loss on federal lands is fire. In the future, Sudden Oak Death may become a threat to habitat in parts of the subspecies' range. *This information was considered and incorporated when developing the assessment of effects for the South Fork project. There have been no large fires in the South Fork area in recent years. Sudden Oak Death has not been found in the South Fork area.*
>
> Barred Owls are an invasive species, that may have competitive effects on Northern Spotted Owls (as was recognized at the time of listing). Opinion on the panel was divided on the effects of Barred Owls. While all panelists thought this was a major threat, some panelists felt that the scientific case for the effects of Barred Owls remained inconclusive; other panelists were more certain on this issue. *This information was considered and incorporated when developing the assessment of effects for the South Fork project. Barred owls are discussed within the cumulative effects section below.* .
>
> The demography of the Northern Spotted Owl has been recently summarized in a meta-analysis (Anthony et al 2004), which is the most appropriate source for information on trends. Although the overall population, and some individual populations show signs of decline, we cannot determine whether these rates are lower than predicted under the Northwest Forest Plan (since there is no baseline prediction under that plan). However the decline of all four Washington state study populations was not predicted, and may indicate that conditions in that state are less suitable for Northern Spotted Owls. Several reasons for this pattern are plausible (including harvest history, Barred Owls, weather).

The South Fork project area was not part of the demographic studies summarized by Anthony et al. (2004). Of the 14 study areas, one is nearby. The nearest is the H.J. Andrews study area. The estimated spotted owl population on the H.J. Andrews study area is 70-80% of the 1987 initial population size. The data from the report suggested that populations over all of the 14 study areas were declining about 4% per year during the study. It also was suggested that owl populations on federal lands had better demographic rates than elsewhere and that populations were doing poorest in Washington. This information was considered and incorporated when developing the assessment of effects for the South Fork project.

There is currently little information on predation on Spotted Owls, and no empirical support for the hypothesis, advanced at the time of listing, that fragmentation of forest after harvest increases predation risk. *This information was considered and incorporated when developing the assessment of effects for the South Fork project.*

West Nile Virus is a potential threat, but of uncertain magnitude and effect. *This information was considered and incorporated when developing the assessment of effects for the South Fork project. West Nile Virus has not been identified in the South Fork project area.*

In general, conservation strategies for the Northern Spotted Owl are based on sound scientific principles and findings, which have not substantially altered since the time of listing (1990), the Final Draft Recovery Plan (1992) and adoption of the Northwest Forest Plan (1994). Nevertheless we identify several aspects of conservation and forest management that may increase both short and medium term risks to the species. These are typically due to failures of implementation.

A full evaluation of the uncertainties of the data, the conclusions that can be drawn from them, and of the perceived threats to the subspecies, are shown in the summary of individual panelist responses to a questionnaire.

Major threats to Northern Spotted Owls at this time include: the effects of past and current harvest; loss of habitat to fire; Barred Owls. Other threats are also present. Of threats identified at the time of listing, only one (predation linked to fragmentation) does not now appear well supported.

D. ANALYSIS OF CUMULATIVE EFFECTS

The spotted owl analysis area appears to have adequate dispersal habitat for spotted owls. Dispersal habitat is potentially limited in adjacent areas outside the Forest in the Clear Creek and Molalla River Watersheds due to their land base being predominantly in private ownership. In this area, the more likely limiting factor for spotted owl occupancy of the area is the lack of spotted owl suitable habitat and lack of connectivity between these suitable habitat blocks. A foreseeable future action that is likely to occur within this spotted owl analysis area is the BLM Hillock Timber Sale which proposed to degrade approximately 500 acres of dispersal-only habitat. Considering the Hillock Timber Sale's effects to spotted owls, the cumulative effects on dispersal habitat from the South Fork Project would still be minor, mainly because overall only a small percentage of dispersal habitat would be affected and it is not likely the limiting factor for owls in the analysis area. There would be no cumulative effects on suitable owl habitat because this project does not impact this habitat type.

The barred owl has been expanding into northern spotted owl territory from northeastern Canada since about 1900, moving into Washington, Oregon and Northern California and in some cases has been displacing spotted owls. Barred owls are known to be present on the Forest. Barred owls may be expanding their range because of changes to forest structure from logging, wildfire or climate change.

E. CONFLICT DETERMINATION (all alternatives):

All action alternatives for the South Fork Commercial Thinning Project will have a **"May Affect, and is Not Likely to Adversely Affect,"** call on the spotted owl and its habitat.

F. COMMUNICATION WITH U.S. FISH AND WILDLIFE SERVICE:

The northern spotted owl is listed as threatened throughout its range under the endangered species act (55 CFR 26114) on June 22, 1990. Any action that would result in a beneficial effect or could result in an adverse impact to the spotted owl would result in a may effect determination and would require consultation with the U.S. Fish and Wildlife Service.

Consultation with the U.S. Fish and Wildlife Service was initiated on the "South Fork Timber Sale" in August of 2004 through the document titled "The Programmatic Biological Assessment for Projects with the Potential to Modify the Habitats of Northern Spotted Owls and/or Bald Eagles or Modify Critical Habitats of the Northern Spotted Owl - Willamette Province FY 2005-2006." The Fish and Wildlife Service issued the Biological Opinion in March 2005. More information on the Biological Opinion is found about under the Effects to spotted owl on a province scale.

Northern Bald Eagle

(*Haliaeetus leucocephalus* – threatened)

A. HABITAT

The bald eagle is a permanent resident in Oregon. Their nests are usually located in multi-storied stands with old-growth components, and are near water bodies that support an adequate food supply. Nests, which usually consist of a bulky platform of sticks, are usually located in the super-canopy of trees, or even on a cliff. Nest sites are usually within ¼ mile of water in the Cascades.

Adequate forage sources are possibly the most critical component of bald eagle breeding and wintering habitat. Fish, waterfowl, rabbits, and various types of carrion comprise the most common food sources for eagles in the Pacific Recovery Plan area. Wintering bald eagles perch on a variety of substrates, proximity to a food source being the most important factor influencing perch selection. Eagles tend to use the highest perch sites available that provides a good view of the surrounding area. Communal roosts are invariably near a rich food source and in forest stands that are multi-storied and have at least a remnant old growth component.

B. FIELD REVIEW

Bald eagles are observed occasionally on the District, especially in late summer through late winter. Due to low numbers and sporadic use, no communal roost areas are known to exist on the District. There has been consistent use by adults in two areas of the Clackamas River Ranger District, one of which has had recent nesting success by a bald eagle pair. These areas are greater than 20 miles away from the proposed project site.

Habitat available within the project area

No. Although Bald Eagles are commonly seen along the South Fork of the Clackamas River late summer through early fall, this river and other parts of the watershed do not appear to contain adequate foraging habitat for the species (USDA 1997). Prey availability appears also to be the limiting factor for bald eagles within the Clear Creek Watershed. According to the Hillock Environmental Assessment (USDI 2005), bald eagles have never been observed in the Hillock Area. The Molalla River Watershed Analysis (USDI 1999) states that bald eagles are suspected as rare migrants in the watershed and have been observed in the lower portions of the watershed. There are no known nest sites within the watershed (USDI 1999).

No further analysis needed due to lack of habitat.

Larch Mountain Salamander

(*Plethodon larseli* – Sensitive**)**

A. HABITAT

Habitat is mainly restricted to the talus slopes of the Columbia River Gorge, although the species is now known to occur at several locations in the Cascade Mountains of Washington. This salamander can be found near the surface under rocks during wet weather, but it retreats to considerable depths in the talus during cold and dry weather. Individuals can occur far from streams and seepages and seem to be less common in perpetually wet talus than in talus that varies from wet to dry with seasonal rainfall.

B. FIELD REVIEW

Habitat available within the project area
No. The South Fork Thin occurs just south of the identified Larch Mountain salamander distribution range as defined in the Northwest Forest Plan. Although 70 acres of rock/talus exists within the South Fork Clackamas River Drainage, it is not located in the steep, wooded areas preferred by the Larch Mountain Salamander (USDA 1997). The Clear Creek Watershed Analysis states that habitat may be available for the Larch Mountain Salamander, but all known occurrences are limited in areas in close proximity to the Columbia River Gorge (USDA 1995). In addition, all of the proposed timber sale units do not occur within or directly adjacent to any talus slopes.

No further analysis needed due to lack of habitat

Oregon Slender Salamander
(*Batrachoseps wright* - Sensitive)

A. HABITAT

The only amphibian endemic to Oregon, this species is found predominantly on the west slope of the Cascade Range from the Columbia River south to southern Lane County. Sites have been found in Lane, Linn, Clackamas, and Multnomah counties as well as a few sites on the eastern slopes of the Cascades in Hood River and Wasco counties. Sites are generally scarce, occurring in scattered and often widely separated colonies, but sometimes locally common. It is known to occur at only a few dozen localities.

The Oregon Slender salamander is found in moist woods consisting of Douglas fir, maple, hemlock, and red cedar. It is most common in mature Douglas-fir forests and appears to be dependent on mature and old growth stands. Individuals are found under rocks, wood, or bark and wood chips at the base of stumps as well as under the bark and moss of logs. They are also found in rotting logs, in holes and crevices in the ground, and in termite burrows. Nests that have been located were found under bark and in rotten logs.

B. FIELD REVIEW

The species has been documented in the Clear Creek Watershed, but have not been found in previously harvested areas regardless of the availability of significant quantities of down logs (USDA 1995). All the proposed harvest units occur within managed plantations, the oldest being 54 years. There are few, if any, remnant structures left over from the previous stand.

Habitat available within the project area
None. All of the proposed units do not have the habitat components necessary for occupation by the species.

Cope's Giant Salamander (*Dicamptodon copei* - Sensitive) & Oregon Spotted Frog (*Rana pretiosa* – Sensitive)

A. HABITAT

Cope's Giant Salamander: Cope's Giant salamander prefers streams and seepages in moist coniferous forests. They limit their occurrence to waters with temperatures in the 8 to 14 degrees Celsius range. They will also inhabit cold clear mountain lakes and ponds. They occur in suitable areas from sea level up to 1,350 meters elevation. The Cope's salamander breed and rear its young within the cracks and crevices of the rocky substrates within the stream course. They sometimes leave streams on wet rainy nights but remain on wet rocks and vegetation near the stream. This salamander is most frequently found on pieces of wood in streams, under logs, bark, rocks or other objects near streams.

Oregon Spotted Frog: The range of this species is from Northern British Columbia and coastal southern Alaska south to the Rocky Mountains of Idaho, Montana, and Utah. Populations are also present in both the interior and coastal mountains of the Pacific Northwest.

The Oregon Spotted Frog is a highly aquatic species that is rarely found far from permanent water. This species frequents waters and associated vegetated shorelines of ponds, springs, marshes, and slow-flowing streams and appears to prefer waters with a bottom layer of dead and decaying vegetation. They are found in aquatic sites in a variety of vegetation types, from grasslands to forests. Individuals may disperse into adjacent non-aquatic areas during wet weather.

The Oregon Spotted frog and Cope's giant salamander has the potential to be negatively affected by increased sedimentation resulting from timber sale activities adjacent to or intersecting streams and water sources. Sediment deposition within the substrate could impair preferred habitat characteristics. Also, sedimentation of streams can lead to asphyxiation of embryos and larvae as well as a degradation of overwintering habitat that may result in local extinctions.

B. FIELD REVIEW

Cope's Giant Salamander: This species' range is predominantly west of the Cascade Range. Potential habitat for this species does exist within the Clackamas River Ranger District. There have been documented sightings of the species within the South Fork Clackamas River Watershed (USDA1997). A portion of the planning area appears to have all the habitat characteristics necessary for species' occupancy.

The Cope's Giant Salamander is difficult to identify and can be easily confused with the Pacific Giant Salamander (Dicamptadon tenebrosus). There have been numerous sightings reported from streams on the Clackamas River Ranger District, many of which have not been positively confirmed.

Oregon Spotted Frog: This species is highly aquatic and needs a permanent water source to survive. Potential habitat for this species does exist within the Clackamas River Ranger District. A portion of the planning area appears to have all the habitat characteristics necessary for species' occupancy.

Habitat available within the project area
Yes. Six of the units (2, 6, boundary of 10 and 11, 12 & 13) within the South Fork Commercial Thinning Project include perennial streams that have potential habitat for the Cope's Giant Salamander and Oregon Spotted Frog.

C. ANALYSIS OF DIRECT/INDIRECT EFFECTS

Alternative A (No Action)

No effects to the Cope's Giant salamander or Oregon Spotted frog would occur with implementation of this alternative. The streams and wet areas within the stands would continue to provide potential habitat for the species for possibly far into the future.

Alternative B (Proposed Action) and D

Effects to Habitat and Individuals
There are several perennial streams occurring within six of the South Fork units. These 74 acres of riparian reserves will have active management occurring within them except for the no-cut buffers described below. A minimum of a 50-foot no-harvest buffer will be established along the active channel of all perennial streams. Larger buffer widths may be needed on a site-specific basis to prevent any increase in sediment delivery rates or a decrease in stream shading. Smaller buffer widths would be allowed if it is determined on a site specific basis that there would be no increase in sediment delivery rates or decrease in stream shading.

These buffers described above would be in place during the length of the timber sale and post-sale activities, including road construction. It is likely that the potential habitat for the Cope's Giant Salamander and Oregon Spotted frog would be present within these buffers. These no-cut areas should prevent any un-intentional extirpation or injuring of individuals that may be present near the water sources during on-the-ground activities.

The potential for increased sedimentation to these water sources would be minimized because the vegetative buffer created by the no-harvest buffers should act as an effective barrier to any sediment being transported by surface erosion or runoff. In addition, these no-harvest buffers would allow soil infiltration between the areas of activity and any water source. Even if some movement occurred, the vegetated buffer strips along the water source would act as an effective barrier. Although there is the potential that small micro-climate changes would occur with implementation of this project, the change is not predicted to be substantial enough to affect habitation of the areas by Cope's Giant salamander and Oregon Spotted frog.

Alternative C

The effects are the same as alternative B. Measures are being taken within alternative B to minimize any detrimental effects from the re-opening of old, overgrown roads and thinning in riparian reserves. These same measures are also being taken with the 2,300 feet of new temporary road construction that will occur with this alternative. Consequently, this alternative that includes new temporary road building would have no additional detrimental effects.

D. CUMULATIVE EFFECTS

None since no effects are predicted to occur with the action alternatives action.

E. CONFLICT DETERMINATION

The action alternatives of the South Fork Thin will have a **"No Impact"** on the Cope's Giant salamander and Oregon Spotted frog or their habitat.

Cascade Torrent Salamander

(*Rhyacotriton cascadae* – Sensitive)

A. HABITAT

The range of this species is from the coastal mountains on the Olympic Peninsula in Washington south to Mendocino County, California. It also has a known population in the Cascade Mountains of southern Washington and northern Oregon, with a local disjunct population in the southern Oregon Cascades.

The torrent salamander is most abundant in rocks bathed in a constant flow of cold water, but also occurs in cool rocky streams, lakes, and seeps. Individuals from this species require microclimatic and microhabitat conditions generally found only in older forests.

The diet of this salamander consists of aquatic and semi-aquatic invertebrates, including amphipods, springtails, fly larvae, worms, snails, and spiders. They search for prey under rocks and other objects in streams. Adults occasionally are found under surface objects a few meters from water after heavy rains, but they are the most aquatic of our metamorphosed salamanders and should be expected only in saturated stream-side talus and in streams. Experiments have shown that this species are among the most sensitive of all terrestrial northwestern salamanders to loss of body water and will die quickly in a desiccating environment.

B. FIELD REVIEW

The Cascade Torrent Salamander is suspected to occur within the vicinity of the proposed project (USDI 2004). There have been documented sightings of this species within the South Fork Clackamas River Watershed (USDA 1997). Potential habitat also exists for this species within Molalla River and Clear Creek watersheds.

Habitat available within the project area

No. All the proposed harvest units consist of young, managed second-growth stands, the oldest being approximately 50 years. None of these units have the habitat components necessary for occupancy by the Cascade Torrent Salamander.

No further analysis needed due to lack of habitat.

Gray Flycatcher
(Empidonax wrightii – Sensitive)

A. HABITAT

The Gray Flycatcher is a bird of the arid interior West. It prefers relatively treeless areas with tall sagebrush, bitterbrush, or mountain mahogany communities. It will also occupy these communities within open forests of ponderosa or lodgepole pine. It also lives in juniper woodland with a sagebrush understory.

B. FIELD REVIEW

Habitat available within the project area
None. There is no habitat for this species on the Clackamas River Ranger District

No further analysis needed due to lack of habitat.

American Peregrine Falcon
(Falco peregrinus anatum – Sensitive)

A. HABITAT

The most critical habitat components for Peregrine Falcons are suitable nest sites, usually cliffs, and overlooking fairly open areas with an ample food supply. They nest along seacoasts, near marshes, and even in cities, but are not well suited to life in interior forests. They usually nest or roost near a marsh, lake, or coast where water birds are plentiful.

B. FIELD REVIEW

This species is not known to be residing within the South Fork Clackamas River watershed (USDA 1997). Because of the proximity of an active peregrine falcon eyrie, the species could be occasionally observed in the watershed.

Habitat available within the project area
No, there are no cliffs that have the potential to be occupied by peregrine falcons in the vicinity of the proposed project area. The nearest active eyrie is over 3 miles away within the Lower Clackamas Watershed. All harvest units fall outside of the Peregrine Falcon Protection Zone set aside for this eyrie.

No further analysis needed due to lack of habitat.

Northern Painted Turtle (*Chrysemys picta* -Sensitive), Western Pond Turtle (*Clemmys marmorata marmorata*- Sensitive), Horned Grebe (*Podiceps auritus* – Sensitive), & Bufflehead *(Bucephala albeola* – Sensitive)

A. HABITAT

Painted Turtle: An aquatic turtle that frequents ponds, marshes, small lakes, ditches and streams where the water is quiet or sluggish and the bottom is sandy or muddy, and there is considerable vegetation. Mudbanks, logs, partially submerged branches and rocks are preferred for sunning.

Western Pond Turtle: The western pond turtle inhabits ponds, marshes, and the slow-moving portions of creeks and rivers that have rocky or muddy bottoms. Partially submerged logs, vegetation mats, mudbanks, rocks and tree branches provide areas for sunning. Western pond turtles have been found to occur from sea level up to around 2000 feet. During the winter months these turtles usually hibernate in bottom mud.

Horned Grebe: The Horned Grebe breeds throughout most of Alaska and Canada and, locally, just south of the Canadian border. It also breeds in northern Eurasia. Its habitat consists of areas with much open water surrounded with emergent vegetation.

Bufflehead: The Bufflehead is a northern species that breeds from Alaska across Canada, and south to Oregon, northern California, and Wisconsin. This species nests near mountain lakes surrounded by open woodlands containing snags. In many areas, the preferred nest trees are aspen, but it will also nest in ponderosa pine or Douglas-fir.

B. FIELD REVIEW

Habitat available within the project area

Painted turtle and Western Pond turtle: No. All of the units are situated within dense forested environments. Although many of the units contain riparian areas, they do not consist of relatively large open sites for sunning and abundant riparian and aquatic vegetation that is usually associated with the habitat for the species. There are no known sightings of these species on the Clackamas River Ranger District. The Region 6 Regional Forester's Sensitive Species list only has them as suspected to occur on the Mt. Hood National Forest.

Horned Grebe and Bufflehead: No. There are no lakes or ponds within the project area of the required size to provide habitat for these species.

No further analysis needed due to lack of habitat.

Harlequin Duck
(Histrionicus histrionicus – Sensitive)

A. HABITAT

Harlequin Duck: This species occurs from Iceland and Greenland west to eastern Canada. It is absent from the central part of North America, and the "western" population ranges from eastern Siberia east through Alaska and south to the Sierra Nevada of California and the mountains of southwestern Colorado. In the Northwestern United States, the Harlequin duck breeds along relatively low-gradient, slower-flowing reaches of mountain streams in forested areas.

B. FIELD REVIEW

This species is highly aquatic and needs a permanent water source to survive. Potential habitat for this species does exist within the Clackamas River drainage and within some of the potential harvest units. Harlequin ducks are occasionally sighted within Clackamas River Ranger District.

Habitat available within the project area
No. Although several of the units contain perennial streams (i.e. Clear Creek adjacent to unit 13, un-named tributary to Clear Creek adjacent to units 12 and 13, tributary to Memaloose creek within unit 2, and the upper headwaters of Oscar Creek adjacent to unit 6), none of them include any potential habitat for the harlequin duck. The streams are all too fast flowing and steep in these areas to provide habitat for the species.

No further analysis needed due to lack of habitat.

Wolverine
(*Gulo lyscus* – Sensitive)

A. HABITAT

Populations in the Cascade Mountains are small and scattered. Wolverines are usually found in high temperate coniferous forests, from mid-elevation (around 4000 feet) to moderately high elevation (above timberline), depending on the season. Common tree species are subalpine fir and lodgepole pine. They prefer to feed along rivers and streams and in wet meadows. The den is usually in a rock crevice, cave, or beneath a talus slope. Territories may encompass 10 to 80 square miles. Wolverines are believed to prefer areas of minimal people presence and high levels of solitude and seclusion. They are usually associated with wilderness, chiefly because they are so vulnerable to the activities of humans.

B. FIELD REVIEW

Habitat available within the project area:
No. Elevation within the project area ranges from approximately 2000 to 3800 feet in elevation. All of the proposed harvest units occur below 4000 feet in elevation and all of them are located within areas that lack solitude and seclusion qualities due to the open road densities, management activities, and recreational opportunities in the area. It is unlikely that a wolverine would be present in the project area.

Recent field surveys have not been accomplished. The last time broad based surveys were conducted on the Forest was during the winter of 1993-1994 and 1994-1995. There were no sightings of wolverine or sign of their presence.

No further analysis needed due to lack of habitat

Baird's Shrew
(Sorex bairdii permiliensis – Sensitive)

A. HABITAT

This species is endemic to Oregon. Its range is from northwestern Oregon from the Pacific coast east to the Cascades, and from the Columbia River south to Benton and Lane Counties.

Little published information exists that assigns with certainty habitat characteristics to the Baird's Shrew. In 1986 two specimens were collected in an open Douglas-fir forested area with numerous rotting logs in Polk County. The habitat of the Baird's shrew can be described as moist coniferous forests with a shrubby understory. Individuals of the species tend to forage near logs and rocks.

B. FIELD REVIEW

Habitat available within the project area
No. All the proposed harvest units consist of young, managed second-growth stands, the oldest being approximately 50 years. None of these units have the habitat components necessary for occupancy by the Baird's shrew.

No further analysis needed due to lack of habitat

Pacific Fringe-tailed Bat
(Myotis thysanodes vespertinus – Sensitive)

A. HABITAT
Little to nothing is known about this subspecies of the Fringed Myotis (Myotis thysanodes). There appears to be only one source of information for the Pacific Fringe-tailed bat. The distribution of this species is in California, Oregon, and Washington. No habitat data could be found on the Pacific Fringe-tailed bat so habitat information and the following analysis are based on what is known for the Fringed Myotis.

Although the Fringed Myotis is found in a wide variety of habitats throughout its range, it seems to prefer forested or riparian areas. Most Oregon records are west of the Cascade Mountains. Its nursery colonies and roost sites are established in caves, mines, and buildings. The species is thought to forage by picking up food items from shrubs or the ground. It consumes beetles, moths, harvestmen, crickets, craneflies, and spiders.

B. PRE-FIELD REVIEW

Habitat available within the project area
Yes. No breeding or roosting sites are available within the project area. There is the potential for the project area to contain foraging habitat, although foraging usually occurs near the species' breeding and roosting sites. Species would only occur in area during dispersal or possibly foraging.

C. ANALYSIS OF DIRECT/ INDIRECT EFFECTS & CUMULATIVE EFFECTS
No effects in any alternative due to lack of nesting or roosting habitat. In the event that individuals were dispersing or foraging through the area, they would likely be able to quickly disperse from the area during project implementation. Foraging habitat is not limiting and if individuals happened to be displaced, they could easily find other areas to forage within nearby. In addition, it is likely that the thinned units would still provide foraging habitat after project implementation.

D. CONFLICT DETERMINATION
The action alternatives of the South Fork Thin will have a "**No Impact**" to the Pacific Fringe-tailed bat or its habitat.

Puget Oregonian
(Cryptomastix devia - Sensitive)

A. HABITAT
The Puget Oregonian may be found in mature and old growth forest habitat, typically on or under hardwood logs and leaf litter. These snails are also found on or in the litter under sword ferns growing under hardwood trees and shrubs, especially big leaf maples.

B. PRE-FIELD REVIEW

Habitat available within the project area
No. None of the units have sufficient habitat components to provide habitat for the species.

No further analysis needed due to lack of habitat

Columbia Oregonian

(Cryptomastix hendersoni - Sensitive)

A. HABITAT

In the Western Cascades, this species can be found in mature forested habitats outside of riparian areas. Individuals have been found in damp situations under relatively closed canopies in mature western hemlock forests that include some Douglas-fir, cedar, vine maple, and alder.

B. PRE-FIELD REVIEW

Habitat available within the project area

No. None of the units have sufficient habitat components to provide habitat for the species.

No further analysis needed due to lack of habitat

Evening Fieldslug

(Deroceras hesperium - Sensitive)

A. HABITAT

This species has been reported to be associated with wet meadows in forested environments in a variety of low vegetation, litter and debris; rocks may also be used. Little is known about this species or its habitat. It is possible that individuals may be confined to moist surface vegetation and cover objects within 30 meters (98 feet) of perennial wetlands, springs, seeps and riparian areas.

B. PRE-FIELD REVIEW

Habitat available within the project area

Yes. Harvest will occur within 98 feet of the perennial streams, springs and seeps located within the harvest units. The units that contain some type of a perennial water source are 2, 6, 8, 10, 11, 12 and 13. Most of these riparian sites associated with these water sources have abundant moist surface vegetation.

C. ANALYSIS OF DIRECT/INDIRECT EFFECTS

Alternative A (No Action)

No effects to the Evening Fieldslug would occur with implementation of this alternative. The perennial streams and other riparian areas within the stands would continue to provide potential habitat for the species for possibly far into the future.

Alternative B (Proposed Action) and D

Effects to Habitat and Individuals

There are several perennial streams and other riparian sites occurring within South Fork units mentioned above. These areas consist of approximately 76 acres of riparian reserves within the project area that will have active management occurring within them except for the no-cut buffers described as follows. A minimum of a 50-foot no-harvest buffer will be established along the active channel of all perennial streams. Larger buffer widths may be needed on a site-specific basis to prevent any increase in sediment delivery rates or a decrease in stream shading. Smaller buffer widths would be allowed if it is determined on a site specific basis that there would be no increase in sediment delivery rates or decrease in stream shading. Smaller no-cut buffers would likely be applied to intermittent streams and smaller riparian sites such as seeps and springs.

These buffers described above would be in place during the length of the timber sale and post-sale activities, including road construction. However, it is possible that if this species were present within one of the harvest units, they could be found outside of the no-cut buffers and potentially be negatively affected by timber harvest activities. There could be un-intentional extirpation or injuring of individuals that may be present near the water sources during on-the-ground operations.

Because little is known about the species, it is unknown on what effect the change in stand structure (removal of trees and opening of the canopy) would have on individuals from the population. There is the potential that this change in stand structure and resultant micro-climate change would negatively affect individuals from the species by making the unit uninhabitable to the species.

Alternative C

Approximately 2,300 feet of temporary new road construction would occur with this alternative. However, since the construction of these roads will not occur within 100 feet of any potential habitat for the Evening Fieldslug, there will be no additional effects to this species.

D. CUMULATIVE EFFECTS

Little timber management currently occurs within 50 feet of riparian sites. Although the Evening Fieldslug can be found up to 98 feet from riparian areas, individuals are more likely to be found closer to standing water. A foreseeable future action that is likely to occur within the general area is the BLM Hillock Timber Sale which proposed to harvest 50 acres within riparian reserves. Considering the Hillock Timber Sale's effects to riparian habitat, the cumulative effects on Evening Fieldslug from the South Fork Project would still be minor, mainly because overall only a very small portion of potential habitat for the species would be impacted.

E. CONFLICT DETERMINATION

The action alternatives of the South Fork Commercial Thinning Project will have a **"May Impact Individuals, but not Likely to Cause a Trend to Federal Listing or Loss of Viability to the Species"** on the Evening Fieldslug or it's habitat.

Dalles Sideband

(Monadenia fidelis ochromphalus - Sensitive)

A. HABITAT

The Dalles Sideband has been located in steep situations on both sides of the Columbia Gorge near and below where springs are located and in upland locations where moisture conditions allow. This species is usually found associated with basalt talus, within 200 m. of streams, seeps or springs, in steppe or dry forest plant communities. It may be found among rocks, shrubs, or other vegetation and under down wood.

B. PRE-FIELD REVIEW

Habitat available within the project area

No. No none locations of this species have been found or are suspected to occur on the Clackamas River Ranger District. It's habitat in the surrounding area is expected to occur within the Columbia Gorge National Scenic Area as well as Hood River and Barlow Ranger Districts.

No further analysis needed due to lack of habitat.

Crater Lake Tightcoil

(Pristiloma arcticum crateris - Sensitive)

A. HABITAT

This species is found in perennially wet situations in mature conifer forests, among rushes, mosses and other surface vegetation or under rocks and woody debris within 10 m. of open water in wetlands, springs, seeps and riparian areas, generally in areas which remain under snow for long periods in the winter. It is found within moderate to high elevations (2000 to 7000 feet).

B. PRE-FIELD REVIEW

Habitat available within the project area
None. Although the project area occurs within the lower end of the elevational band known for the species, this area does not remain under snow for long periods in the winter. It is unlikely the species would be found in the area.

No further analysis needed due to lack of habitat

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