JUNCROCK PLANNING AREA
Wildlife
Biological Evaluation/Biological Assessment and Survey and Manage Species Effects

The status of threatened, endangered, and proposed species; USFS Region 6 sensitive species; FSEIS survey and manage species; and some other special mention species with potential to occur in the planning area.

Table VI -- Effects for Wildlife				
Species	**Alt. I**	**Alt. II**	**Alt. III**	**Alt. IV**
Threatened and Endangered Species				
Bald Eagle	No Effect	No Effect	No Effect	No Effect
Northern Spotted Owl	MEILTAE	MEILTAE ME-NLTAE	MEILTAE ME-NLTAE	MEILTAE ME-NLTAE
Canada Lynx	No Effect	No Effect	No Effect	No Effect
R6 Sensitive Species				
Larch Mountain Salamander	No Impact	No Impact	No Impact	No Impact
Oregon Slender Salamander	No impact	MII	MII	MII
Pacific Fringe-tailed Bat	No Impact	MII	MII	MII
Wolverine	No Impact	MII	MII	MII
Pacific fisher	No Impact	MII	MII	MII
Survey and Manage Species not on R6 Sensitive Species List				
Great Gray Owl	No Habitat	No Habitat	No Habitat	No Habitat
Puget oregonium	SN	SN	SN	SN
Columbia oregonium	SF	SF	SF	SF
Dalles sideband	SN	SN	SN	SN
Evening fieldslug	SN	SN	SN	SN

MEILTAE—May Effect and Is Likely To Adversely Effect
ME-NLTAE—May Effect-Not Likely To Adversely Effect
MII- May Impact Individuals, but are not likely to impact populations, nor contribute to a potential loss of viability of the species
SN- Surveyed, not found
SF- Surveyed found

Threatened, Endangered, and Proposed Species

Existing Condition Bald eagle: There is no potential habitat within or adjacent to the planning area, nor have bald eagles been observed in the area.

Effects of Alternative 1 (No Action) Bald eagle: There is no potential habitat within or adjacent to the planning area therefore No Action alternative would have **no effect** on bald eagles.

Effects of Alternative 2 (Proposed Action) Bald eagle: There is no potential habitat within or adjacent to the planning area therefore the proposed activities will have **no effect** on bald eagles.

Effects of Alternative 3 (Mt. Hood Forest Plan) Bald eagle: There is no potential habitat within or adjacent to the planning area therefore the proposed activities will have **no effect** on bald eagles.

Effects of Alternative 4 (Diameter Limit) Bald eagle: There is no potential habitat within or adjacent to the planning area therefore the proposed activities will have **no effect** on bald eagles.

Existing Condition Northern spotted owl: The northern spotted owl inhabits the planning area. A 100 Acre LSR (#2156 at 124 acres) has been identified and designated for the one owl activity center known at the time of adoption of the NWFP. Two additional owl activity centers with 100 Acre LSR's (#2037 and #2161) are within 1.2 miles of the planning area. Two activity centers are also located within the White River LSR to the north and are within 1.2 miles of the planning area. A survey conducted for installation of a fiber optic cable through the center of the planning area, detected a northern spotted owl response to the east of the planning area and outside of existing LSR's, but none within the planning area. Virtually all of the proposed planning area (3865 acres) is within the OR 2 critical habitat unit (CHU) established by the USFWS. The CHU was established because of potential for loss of dispersal habitat below levels necessary to insure adequate dispersal of the species across the landscape. The White River LSR Assessment recognized the need for dispersal habitat across the landscape and designated a dispersal corridor within the Juncrock planning area to allow connectivity north and south across the Mt. Hood National Forest.

Total nesting, roosting and foraging habitat (NRF) in the planning area is mostly LSM and CAT structure types (810 acres). Portions of the OM, FEM, and MSE structure types (about 755 acres) also provide NRF or marginal NRF habitat for a total of about 1565 acres (40.5% of the proposed planning area). Dispersal habitat makes up the remaining 281 acres of OM, FEM, and MSE stand structure (7.3% of the planning area) that is not NRF habitat. The remaining 2019 acres (52.2% of the planning area) are not dispersal or NRF habitat. Further discussions of dispersal habitat are confined to those structural conditions that provide for dispersal needs but do not meet NRF needs. All NRF habitat is also dispersal, therefore when considering how much total area is available for dispersal, the NRF and dispersal must be added together.

Effects of Alternative 1 (No Action) Northern spotted owl: The dispersal corridor designated by the White River LSR Assessment along Frog Creek and Clear Creek to allow connectivity north and south across the Mt. Hood National Forest would remain intact.

Because of the existing disease and other health problems, nesting, roosting, and foraging habitat (NRF) and dispersal habitat will decline during the next 10 years. Assuming infestation rates do not accelerate to catastrophic levels, it is likely that 41 acres of NRF habitat will downgrade to dispersal, 16 acres of NRF habitat will be lost, and 9 acres of dispersal habitat will be lost within 10 years with no treatment. The resulting net change is a loss of 9 acres of dispersal habitat and 57 acres of NRF habitat. These losses in habitat are not likely to result in breaches of the dispersal corridor in the planning area.

No Action

[1]Habitat Type NH / DISP/ NRF	Acres in potential units	Acres that will Degrade	Acres that will Down-grade	Acres that will be Lost	Acres with no change or are non-habitat	Potential Unit Acres Remaining	Net Acre Change in 10 Years verses the present	Net Acre Change in 10 years verses no action
NH	96	0	0	0	96	96	0	0
Disp	106	69	0	9	28	97	-9	0
NRF	349	157	41	16	135	292	-57	0
Total Acres	551	226	41	25	259			

[1]NH is non-habitat; DISP is dispersal habitat;.NRF is nesting, roosting, and foraging habitat.

Therefore, the No Action alternative would have **may effect and is likely to adversely affect** on northern spotted owl or their habitat including the needs of CHU OR-2 for those acres lost and **may effect-not likely to adversely affect** for those areas that are degraded.

Effects of Alternative 2 (Proposed Action) Northern spotted owl: Alternative 2 **may effect and is likely to adversely affect** northern spotted owl because of the loss of 57 acres of NRF habitat, a downgrading of 28 acres of NRF habitat, and the direct loss of 28 acres of dispersal habitat. There is an additional degradation of 264 acres of nesting, roosting and foraging habitat, and 78 acres of dispersal habitat. This degradation would result in a **may effect-not likely to adversely affect** determination for those aspects of the proposed action. The resulting net change is a loss of 85 acres of NRF habitat, and no change in acres of dispersal habitat. These losses in habitat would not result in breaches of the dispersal corridor in the planning area nor would it substantially reduce its effectiveness.

[1]Habitat Type NH / DISP/ NRF	Acres in potential units	[2]Acres Degraded (NLAA)	[3]Acres Down-graded (LAA)	[4]Acres Removed (LAA)	[5]Acres with no change or are non-habitat (NO EFFECT)	Potential Unit Acres Remaining	Net Acre Change in 10 Years verses the present	Net Acre Change in 10 years verses no action
NH	96	0	0	0	96	96	0	0
Disp	106	78	0	28	0	106	0	+9
NRF	349	264	28	57	0	264	-85	-28
Total Acres	551	342	28	85	96			

[1]NH is non-habitat; DISP is dispersal habitat; NRF is nesting, roosting, and foraging habitat.

[2]Acres Degraded (NLAA) corresponds to a finding that the habitat will still function within its present capabilities as nesting, roosting, or foraging; or as dispersal habitat.

[3]Acres Downgraded (LAA) corresponds to a finding that the habitat will no longer function within its present capabilities as nesting, roosting, or foraging; but will remain as functional dispersal habitat.

[4]Acres Removed (LAA) corresponds to a finding that the habitat will lose its present capability and will no longer function as habitat.

[5]Acres with no change or are non-habitat (NO EFFECT) corresponds to a finding that there is no present habitat value; therefore the activity would not have an effect upon habitat, or habitat acres that have not had their habitat value degraded, downgraded, or removed.

Alternative 2 is within the incidental take, reasonable and prudent measures, terms and conditions, and conservation recommendations of the Biological Opinion issued by the USFWS for the proposed Willamette Province Fiscal Year 1999 Habitat Modification Biological Assessment (BA) for Effect to Listed Species. The BA anticipated 200 acres of NRF habitat removed, 220 acres of NRF downgraded, 400 acres of NRF degraded, 300 acres of dispersal habitat removed in CHU OR-2 and additional 100 acres of NRF downgraded, 100 acres of NRF degraded and 100 acres of dispersal habitat removed outside the CHU OR-2. Late successional reserves (LSR's) 2156, 2161, and 2037, are protected from entry, seasonal restrictions for protection from disturbance will be applied to all potentially disturbing activities within 0.25 miles of them.
The dispersal corridor designated by the White River LSR Assessment along Frog Creek and Clear Creek to allow connectivity north and south across the Mt. Hood National Forest is maintained intact.

Post treatment nesting, roosting, and foraging habitat (NRF) makes up about 1480 acres (38.3% of the planning area) a loss of 85 acres. Dispersal habitat makes up an additional 281 acres (7.3% of the area), which is no net change from present. Total dispersal habitat, which includes NRF habitat, is 1761 acres or 45.6% of the planning area (a net loss of 85 acres).

The net effect of the Alternative 2 in 10 years verses no treatment is 28 acres less NRF habitat, 9 acres more dispersal habitat and the remaining habitat existing in a healthier condition and capable of withstanding insect, disease, drought, and fire with greater resiliency.

Effects of Alternative 3 (Mt. Hood Forest Plan) Northern spotted owl: Alternative 3 **may effect and is likely to adversely affect** northern spotted owl because of the loss of 179 acres of NRF habitat, a downgrading of 2 acres of NRF habitat, and the direct loss of 36 acres of dispersal habitat. There is an additional degradation of 168 acres of nesting, roosting and foraging habitat, and 71 acres of dispersal habitat. This degradation would result in a **may effect-not likely to adversely** affect determination for those aspects of the proposed action. The resulting net change is a loss of 181 acres of NRF habitat, and 33 acres of dispersal habitat.

[1]Habitat Type NH / DISP/ NRF	Acres in potential units	[2]Acres Degraded (NLAA)	[3]Acres Down-graded (LAA)	[4]Acres Removed (LAA)	[5]Acres with no change or are non-habitat (NO EFFECT)	Potential Unit Acres Remaining	Net Acre Change in 10 Years verses the present	Net Acre Change in 10 years verses no action
NH	96	0	0	0	96	96	0	0
Disp	106	71	0	36	0	73	-33	-24
NRF	349	168	2	179	0	168	-181	-124
Total Acres	551	239	2	215	96			

[1]NH is non-habitat; DISP is dispersal habitat; NRF is nesting, roosting, and foraging habitat.

[2]Acres Degraded (NLAA) corresponds to a finding that the habitat will still function within its present capabilities as nesting, roosting, or foraging; or as dispersal habitat.

[3]Acres Downgraded (LAA) corresponds to a finding that the habitat will no longer function within its present capabilities as nesting, roosting, or foraging; but will remain as functional dispersal habitat.

[4]Acres Removed (LAA) corresponds to a finding that the habitat will lose its present capability and will no longer function as habitat.

[5]Acres with no change or are non-habitat (NO EFFECT) corresponds to a finding that there is no present habitat value; therefore the activity would not have an effect upon habitat, or habitat acres that have not had their habitat value degraded, downgraded, or removed.

Alternative 3 is within the incidental take, reasonable and prudent measures, terms and conditions, and conservation recommendations within the Biological Opinion issued by the USFWS for the proposed Willamette Province Fiscal Year 1999 Habitat Modification Biological Assessment (BA) for Effect to Listed Species. The BA anticipated 200 acres of NRF habitat removed, 220 acres of NRF downgraded, 400 acres of NRF degraded, 300 acres of dispersal habitat removed in CHU OR-2 and additional 100 acres of NRF downgraded, 100 acres of NRF degraded and 100 acres of dispersal habitat removed outside the CHU OR-2. Late successional reserves (LSR's) 2156, 2161, and 2037, are protected from entry, seasonal restrictions for protection from disturbance will be applied to all potentially disturbing activities within 0.25 miles of them.

The dispersal corridor designated by the White River LSR Assessment along Frog Creek and Clear Creek to allow connectivity north and south across the Mt. Hood National Forest would not be totally breached but would be substantially reduced in effectiveness.

Post treatment nesting, roosting, and foraging habitat (NRF) makes up about 1384 acres (35.8% of the planning area) a loss of 181 acres. Dispersal habitat makes up an additional 248 acres (6.4% of the area) a loss of 33 acres. Total dispersal habitat, which includes NRF habitat, is 1632 acres or 42.2% of the planning area (a net loss of 214 acres).

The net effect of the proposed action in 10 years verses no treatment is 124 acres less NRF habitat, 24 acres less dispersal habitat but the remaining habitat existing in a healthier condition and capable of withstanding insect, disease, drought, and fire with greater resiliency.

Effects of Alternative 4 (Diameter Limit) Northern spotted owl: Alternative 4 **may effect and is likely to adversely affect** northern spotted owl because of the loss of 20 acres of NRF habitat, a

downgrading of 46 acres of NRF habitat, and the direct loss of 22 acres of dispersal habitat. There is an additional degradation of 283 acres of nesting, roosting and foraging habitat, and 84 acres of dispersal habitat. This degradation would result in a **may effect-not likely to adversely affect** determination for those aspects of the proposed action. The resulting net change is a loss of 66 acres of NRF habitat, and an increase of 24 acres of dispersal habitat. The losses in habitat would not result in breaches of the dispersal corridor in the planning area nor would it substantially reduce its effectiveness.

[1]Habitat Type NH / DISP/ NRF	Acres in potential units	[2]Acres Degraded (NLAA)	[3]Acres Down-graded (LAA)	[4]Acres Removed (LAA)	[5]Acres with no change or are non-habitat (NO EFFECT)	Potential Unit Acres Remaining	Net Acre Change in 10 Years verses the present	Net Acre Change in 10 years verses no action
NH	96	0	0	0	96	96	0	0
Disp	106	84	0	22	0	130	+24	+33
NRF	349	283	46	20	0	168	-66	-9
Total Acres	551	370	46	38	96			

[1]NH is non-habitat; DISP is dispersal habitat; NRF is nesting, roosting, and foraging habitat.

[2]Acres Degraded (NLAA) corresponds to a finding that the habitat will still function within its present capabilities as nesting, roosting, or foraging; or as dispersal habitat.

[3]Acres Downgraded (LAA) corresponds to a finding that the habitat will no longer function within its present capabilities as nesting, roosting, or foraging; but will remain as functional dispersal habitat.

[4]Acres Removed (LAA) corresponds to a finding that the habitat will lose its present capability and will no longer function as habitat.

[5]Acres with no change or are non-habitat (NO EFFECT) corresponds to a finding that there is no present habitat value; therefore the activity would not have an effect upon habitat, or habitat acres that have not had their habitat value degraded, downgraded, or removed.

Alternative 4 is within the incidental take, reasonable and prudent measures, terms and conditions, and conservation recommendations of the Biological Opinion issued by the USFWS for the proposed Willamette Province Fiscal Year 1999 Habitat Modification Biological Assessment (BA) for Effect to Listed Species. The BA anticipated 200 acres of NRF habitat removed, 220 acres of NRF downgraded, 400 acres of NRF degraded, 300 acres of dispersal habitat removed in CHU OR-2 and additional 100 acres of NRF downgraded, 100 acres of NRF degraded and 100 acres of dispersal habitat removed outside the CHU OR-2. Late successional reserves (LSR's) 2156, 2161, and 2037, are protected from entry, seasonal restrictions for protection from disturbance will be applied to all potentially disturbing activities within 0.25 miles of them.

The dispersal corridor designated by the White River LSR Assessment along Frog Creek and Clear Creek to allow connectivity north and south across the Mt. Hood National Forest is maintained intact.

Post treatment nesting, roosting, and foraging habitat (NRF) makes up about 1499 acres (38.7% of the planning area) a loss of 66 acres. Dispersal habitat makes up an additional 305 acres (7.9% of the area) a gain of 24 acres. Total dispersal habitat, which includes NRF habitat, is 1804 acres or 46.7% of the planning area (a net loss of 42 acres).

The net effect of the Alternative 4 in 10 years verses no treatment is 9 acres less NRF habitat, 33 acres more dispersal habitat.

Existing Condition Canada lynx: Canada lynx and its habitat are not considered present on the Mt. Hood National Forest. The Canada lynx was listed as a threatened species in January 2000. The area (FS road 2130 and adjacent stands) was surveyed via snowmobile from 1993 through 1996 with no tracks observed. The 1993 through 1996 surveys as well as observations made the winters of 1997 through 2000 indicated few snowshoe hare present (primary prey base for lynx). Higher elevation areas of the Mt. Hood National Forest and the Cascade Mt. Range of Oregon with the best potential of being occupied by

lynx have been surveyed for lynx using a hair gathering and DNA analysis technique since 1998. There have been no confirmed samples of lynx hair found in Oregon. Sampling did not contain lynx hair except for samples collected in known lynx habitat, in northern Washington. The confirmed lynx samples collected from lynx habitat in Washington support the suitability of the sampling techniques.

Dense thickets associated with snowshoe hare habitat are absent or very limited. Lynx habitat as described in the Lynx Conservation Assessment and Strategy (LCAS) and subsequent interpretation is not expected to occur on the Mt. Hood National Forest. The Mt. Hood National Forest (Forest) received new habitat mapping directions from the Lynx Steering Committee and the Lynx Biology Team addressing Lynx Habitat Mapping Direction in Regions 1, 2, 4, 6, and 9. The new direction identified subalpine fir plant associations as the primary vegetation component from which lynx habitat and lynx analysis units would be delineated. The Mt. Hood National Forest ran this analysis based on existing plant association groups and identified approximately 1270 acres of subalpine fir plant associations primarily on the east side of the Forest. The LCAS identified a need for at least 10 square miles (6400 acres) of primary vegetation to warrant delineation of a lynx analysis unit (LAU). *"Based on studies at the southern part of the lynx range in western U.S., it appears that at least 10 square miles of primary vegetation should be present within each LAU to support survival and reproduction" (page 7-4).* Based on the analysis above, the minimum criteria to develop a lynx analysis unit are not met. Therefore, no lynx habitat is mapped on the Forest and there are no lynx analysis units within which to apply the LCAS habitat objectives.

The nearest primary vegetation considered potentially suitable for lynx foraging opportunities is at higher elevation and over five miles from the planning area. Average snow depths in the planning area range from 10 inches to 3 feet during the months of December, January, and February. Significant snowmelt occurs in March with most of the area open by April. Throughout the winter, freeze-thaw cycles, rain and wet snow events prevent the snow surface from remaining soft (an advantage to lynx) for periods of much more than one to two days at a time.

FS roads 2130-220, 2130, and 4310 are groomed for snowmobile use, with significant snowmobile use also occurring on FS road 4330. Coyote tracks are common across the area throughout the winter, indicating snow and access conditions that would give little competitive advantage to lynx and are not considered favorable to lynx. Analysis of pertinent literature suggests that the Oregon Cascades have probably always had low snowshoe hare populations because of the high number of predators, both in diversity of species and their populations that utilized the hare as a portion of their prey base. Occasional transient lynx are the most likely occurrence in the Oregon Cascades, and even that is unlikely because of the relationship to the Columbia River and the major highways that would inhibit dispersal to the south out of Washington. The vast agricultural lands to the east would likely retard much dispersal from potential habitat in the Blue Mountain area and Idaho.

Effects of Alternative 1 (No Action) Canada lynx: There is no evidence of Canada lynx or their habitat on the Mt. Hood National Forest (Lynx Effects Determination letter to Wildlife Biologists, Mt. Hood National Forest, December 3, 2003). This project is in compliance with the standard and guideline presented in the "Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, Attachment 1(pages 35 and 36), January 2001". Without the presence of lynx and without lynx habitat, consultation under section 7(a) (2) of the Endangered Species Act would properly be concluded with a determination of no effect. Even if continued efforts determine that lynx are present on the Mt. Hood National Forest, the No Action alternative would have **no effect** on Canada lynx or their habitat.

Effects of Alternative 2 (Proposed Action), Alternative 3 (Mt. Hood Forest Plan), and Alternative 4 (Diameter Limit) Canada lynx: There is no effect to lynx or their habitat because of this project with any of these alternatives. There is no evidence of Canada lynx or their habitat on the Mt. Hood National Forest (Lynx Effects Determination letter to Wildlife Biologists, Mt. Hood National Forest, December 3, 2003). This project is in compliance with the standard and guideline presented in the "Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines, Attachment 1(pages 35 and 36), January 2001". Without the presence of lynx and without lynx habitat, consultation under section 7(a) (2) of the Endangered Species Act would properly be concluded with a determination of no effect. There will be continued efforts to determine if lynx are present on the Mt. Hood National Forest. If lynx are confirmed on the Forest, they will receive full protection under the Endangered Species Act and consultation with the USFWS will commence if necessary.

3.4.2 R6 Sensitive Species with Habitat Potential in Treatment Areas

Existing Condition Larch Mountain salamander: The Larch Mountain salamander is listed as a survey and manage species, Category A (Rare, Pre-Disturbance Surveys Practical), within the FSEIS ROD; and was listed as a R6 sensitive species in 2000. Until recently, Larch Mountain salamander habitat has been considered to be shaded talus, usually with a litter and duff covering which is not present in the planning area, therefore no surveys had been conducted in the planning area before the fall of 2000. However, surveys north of the Columbia River have found this species within conifer habitat where litter, duff, and moisture conditions are sufficient. The surveyors indicated that even in those conditions, the substrate beneath the litter/duff tended to be an open, porous rocky material with talus like characteristics. These conditions do not occur within any of the areas proposed for treatment in the planning area. Soil conditions are relatively tight with virtually no interstitial spaces suitable for salamanders to descend into as the summer heats and dries. Suitable moisture conditions in late summer for any salamander species will most likely be associated with large, decayed, down woody material.

Surveys were conducted in the fall of 2000 in accordance with the October 1999 protocol. No Larch Mountain salamanders were found.

Effects of Alternative 1 (No Action) Larch Mountain salamander: There does not appear to be any Larch Mountain salamanders or suitable habitat within or immediately adjacent to any of the treatment areas in the Juncrock Planning area. The No Action alternative would have **no impact** on the habitat, individuals, populations, or the viability of the Larch Mountain salamander.

Effects of Alternative 2 (Proposed Action), Alternative 3 (Mt. Hood Forest Plan), and Alternative 4 (Diameter Limit) Larch Mountain salamander: The proposed activities under these alternatives would have **no impact** on the habitat, individuals, populations, or the viability of the Larch Mountain salamander. No Larch Mountain salamanders have been found within the planning area and there does not appear to be any suitable habitat within or immediately adjacent to any of the treatment areas in the Juncrock planning area.

Existing Condition Oregon slender salamander: The Oregon slender salamander was listed as a R6 sensitive species in 2000. Oregon slender salamander habitat has variously been described as evergreen forests, older second-growth, and old growth Douglas fir with large numbers of large logs and stumps. It is also characterized as a species mostly associated with the west side of the Cascade Mountains of Oregon, (Amphibians of Washington and Oregon, Leonard, et al 1993 and Amphibians of Oregon,

Washington and British Columbia, Corkran and Thoms 1996).

Intensive Larch Mountain salamander surveys (three visits spaced at least 4 days apart, with favorable temperatures and moisture conditions) were conducted on 1359 acres of the Barlow RD in the spring and early summer of 2000. Numerous (542) Oregon slender salamanders were found within decayed logs and under bark and other debris across a wide variety of conditions. These conditions occur in the planning area, however no Oregon slender salamanders were found in the fall of 2000 Larch Mountain salamander surveys of the Juncrock planning area. It is likely that the higher moisture conditions in the spring are more conducive to finding the Oregon slender salamander.

Stand conditions are highly variable where Oregon slender salamanders are found, but are not restricted to mature or older forest conditions. Substantial numbers are found in 30% to 40% canopy closure thinnings in 60 to 80 year old stands of Douglas fir that were subsequently burned about 15 years previously with little down wood. The highest numbers have been found in mixed ponderosa pine/Douglas-fir, and ponderosa pine/Douglas-fir/Oregon white oak stands that varied from 40% to 80% canopy closure with stumps, bark piles, larger decayed logs and other smaller down wood mostly larger than six inches in diameter.

Density of Oregon slender salamanders seems most closely tied to stands with 40 percent or greater canopy closure and moderate levels of coarse to large down wood. Logging and even burning does not appear to prevent occupancy of habitat provided there was still some canopy shading and some down wood present. Densities seem to diminish at higher elevations and when true firs make up greater proportions of stands. Whether elevation, species composition, snow load or some other factors caused this apparent anomaly is not known.

Effects of Alternative 1 (No Action) Oregon slender salamander: The No Action alternative would have **no impact** on these species or their habitats as no habitat would be removed.

Effects of Alternative 2 (Proposed Action) Oregon slender salamander: The proposed activities **may impact individuals, but are not likely to impact populations, nor contribute to a potential loss of viability of the species.** Density of Oregon slender salamanders seems most closely tied to stands with 40 percent or greater canopy closure and moderate levels of coarse to large down wood. Logging and even burning does not appear to prevent occupancy of habitat provided there is still some canopy shading and some down wood remaining.

No Oregon slender salamanders were found in the fall of 2000 Larch Mountain salamander survey of the Juncrock planning area, but it is likely that the higher moisture conditions in the spring would be more conducive to finding them. Oregon slender salamanders have been found within decayed logs and under bark and other debris on the Barlow RD, in conditions similar to those in the planning area.

It is assumed that Oregon slender salamanders inhabit the planning area and that individuals will be impacted by harvest activities. However, sufficient large and coarse woody material will be left in all harvest units to provide potential habitat of higher quality than that found in other locations on the Barlow RD with apparently healthy populations. Canopy closure will drop to potentially unsuitable levels on about 75 percent of Units 1, 2, 3, 10, 11, 13, 14, 17, and 20 (122 acres); and on about 25 percent of Units 4, 6, 7,, 12, and 16 (20 acres) for a period of 20 to 40 years after which there will be sufficient canopy closure to provide for the needs of the Oregon slender salamander. The remaining acres within the above stands and all other treated acres will retain all the characteristics of suitable Oregon slender salamander

habitat immediately post treatment. In addition, about 30% of the planning area will remain in an untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Effects of Alternative 3 (Mt. Hood Forest Plan) Oregon slender salamander: The proposed activities **may impact individuals, but are not likely to impact populations, nor contribute to a potential loss of viability of the species**. Density of Oregon slender salamanders seems most closely tied to stands with 40 percent or greater canopy closure and moderate levels of coarse to large down wood. Logging and even burning does not appear to prevent occupancy of habitat provided there is still some canopy shading and some down wood remaining.

Although no Oregon slender salamanders were found in the fall of 2000 Larch Mountain salamander survey of the Juncrock planning area, they are assumed to inhabit the planning area and that individuals will be impacted by harvest activities. However, sufficient large and coarse woody material will be left in all harvest units to provide potential habitat of higher quality than that found in other locations on the Barlow RD with apparently healthy populations. Canopy closure will drop to unsuitable levels on virtually 100 percent of Units 1, 2, 3, 4, 6, 7, 8-1, 9, 10, 11, 12, 13, 14, 17, 20, and 23 (289 acres) in the short run. However, within 30 to 40 years even those acres will have sufficient canopy closure to provide for the needs of the Oregon slender salamander. The remaining treated acres will retain all the characteristics of suitable Oregon slender salamander habitat immediately post treatment. In addition, about 30% of the planning area will remain in an untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Effects of Alternative 4 (Diameter Limit) Oregon slender salamander: The proposed activities **may impact individuals, but are not likely to impact populations, nor contribute to a potential loss of viability of the species**. This alternative is very similar to Alternative 2 (Proposed Action) in its impact to Oregon slender salamanders.

The differences with Alternative 2 are that the canopy closure will drop to potentially unsuitable levels on about 75 percent of Units 10 and 13 (13 acres); and on about 25 percent of Units 1, 2, 3, 4, 11, 14, 17, and 20 (42 acres) for a period of 20 to 40 years after which there will be sufficient canopy closure to provide for the needs of the Oregon slender salamander. The remaining acres within the above stands and all other treated acres will retain all the characteristics of suitable Oregon slender salamander habitat immediately post treatment. In addition, about 30% of the planning area will remain in an untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Existing Condition Pacific fringe-tailed bat: This species occurs in mixed-conifer and mixed-evergreen forests with relatively dry moisture regimes in the Coast Range and southern Cascade Range of Oregon, and in scattered localities in the Cascade Range in Washington, and throughout the spotted owl range in California. Elevations range from sea level to 6000 feet, with foraging at or within the forest canopy, primarily in riparian habitats. Roost and hibernation sites are generally in crevices within caves, mines, and old wooden bridges and buildings, although snags and large trees also may be important. Apparently suitable riparian foraging conditions occur within and adjacent to the planning area. No caves, mines, wooden bridges, or buildings are in the planning area.

Effects of Alternative 1 (No Action) Pacific fringe-tailed bat: The No Action alternative would have **no impact** on these species or their habitats as no habitat would be removed..

Effects of Alternative 2 (Proposed Action), Alternative 3 (Mt. Hood Forest Plan), Alternative 4 (Diameter Limit) Pacific fringe-tailed bat: The proposed activities of these alternatives **may impact individuals, but are not likely to impact populations, nor contribute to a potential loss of viability of the species.**

No Pacific fringe-tailed bats were located during surveys for bats completed for all potentially suitable caves, mines, wooden bridges, and buildings on the Barlow RD. Foraging occurs above or within the forest canopy, primarily in riparian habitats. Roost and hibernation sites are generally in crevices occurring in caves, mines, and old wooden bridges and buildings, although snags and large trees also may be important. Apparently, suitable riparian conditions occur within and adjacent to the planning area, but no caves, mines, wooden bridges, or buildings are in or immediately adjacent to the planning area.

Only about 7 acres of potentially suitable riparian habitat will be entered with the proposed activities in any of the alternatives. A minimum of 3 snags per acre (or live wildlife trees in the absence of snags) will be left in all treatment units. Unless existing mortality within the stands is imminent, sufficient canopy closure should remain post harvest to provide late successional characteristics that would be suitable as foraging habitat. Only 2 acres would be substantially modified such that they may not provide suitable foraging habitat. In addition, 30% of the planning area will remain in an untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Existing Condition Wolverine: Wolverine tracks have been observed about 8 miles northwest of the planning area. Because of the open road density and the snowmobile use of the area in winter, occupancy by wolverine is very unlikely except as a transient moving through the area. No denning habitat occurs in the planning area, and foraging habitat appears to be highly variable.

Effects of Alternative 1 (No Action): The No Action alternative would have **no impact** on these species or their habitats. Open road densities would remain the same.

Effects of Alternative 2 (Proposed Action), Alternative 3 (Mt. Hood Forest Plan), Alternative 4 (Diameter Limit) Wolverine: The proposed activities of these alternatives may impact individuals through disturbance during foraging, but are not likely to impact populations, nor contribute to a potential loss of viability of the species. Because of the open road density and the snowmobile use of the area in winter, occupancy by wolverine is very unlikely except as a transient moving through the area. No denning habitat occurs in or adjacent to the planning area, and wolverines are highly flexible in foraging habitat requirements. Habitat for potential prey species (or carrion) will not be materially impacted by the proposed activities. In addition, 30% of the planning area will remain in an untreated condition, retaining all of the existing characteristics that are expected in fully functioning late successional stands.

Existing Condition Pacific fisher: The Atlas of Oregon Wildlife: distribution, habitat, and natural history, (Blair Csuti, [et al.] 1997), depicts the fisher range in the Oregon Cascade Mountains being from Bend southward to California. In the Pacific Northwest, fishers are associated with low and mid-elevation forests in which deep snow pack does not accumulate. Fishers are not dependent upon late-successional forests, but appear to require closed-canopy forests that vary in age as long as they contain adequate prey populations. Besides continuous canopy, fishers also prefer forests that have complex physical structure near the forest floor. Natal den site needs appear to be restricted to cavities in trees or

snags over 20 inches in diameter and generally are over 20 feet above ground. It has been speculated that this restrictive habitat requirement may have contributed to the decline of fishers in the Pacific Northwest, since the conversion of old-growth Douglas fir forests to young, even-aged plantations results in the elimination of potential natal den sites. Another factor that seems to have been overlooked is the cutting of all large snags on vast areas of National Forest lands in the 1950's and 1960's because they were considered fire hazards in lightning storms. This may have eliminated extensive areas from being suitable habitat, without fragmentation occurring.

Some large diameter snags do occur within the planning area, both within units and outside them. The planning area is at an elevation and snow zone that should support fisher if other conditions are satisfactory. Tracking efforts in 1993 through 1996 on the Mt. Hood National Forest located fisher tracks within the planning area in 1994. Fisher and the related marten tracks were found in several locations from two to five miles of the planning area with both species assumed to be present in the planning area.

Effects of Alternative 1 (No Action) Pacific fisher: The No Action alternative would have **no impact** on these species or their habitats as conditions remain unchanged.

Effects of Alternative 2 (Proposed Action) Pacific fisher: The proposed activities **may impact individual fisher, but are unlikely to impact populations nor to contribute to a potential loss of viability of the species.**

Potentially 551 acres of suitable habitat will be treated (427 potential denning, 124 potential foraging). Of this, 370 acres should remain potential denning habitat and 106 acres potential foraging habitat post treatment with a net loss of 57 acres of denning and 28 acres of foraging habitat in the short term. Within ten years, virtually all treated acres should exhibit sufficient canopy closure in either the retained overstory or from growth of vine maple and other larger brush species to provide the closed-canopy and complex physical structure habitat that would allow year around foraging. At least three large diameter snags per acre, and the equivalent of three downed trees per acre will be retained within all treated stands in the planning area. In addition, 30% of the planning area will be retained in untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Effects of Alternative 3 (Mt. Hood Forest Plan) Pacific fisher: This alternative **may impact individual fisher, but is unlikely to impact populations nor to contribute to a potential loss of viability of the species**.

Potentially 551 acres of suitable habitat will be treated (427 potential denning, 124 potential foraging). Post treatment, 239 acres should remain potential denning habitat and 73 acres potential foraging habitat with a net loss of 188 acres of denning habitat and 51 acres of foraging habitat. Within ten years, virtually all treated acres should exhibit sufficient canopy closure in either the retained overstory or from growth of vine maple and other larger brush species to provide the closed-canopy and complex physical structure habitat that would allow year around foraging. At least three large diameter snags per acre, and the equivalent of three downed trees per acre will be retained within all treated stands in the planning area. In addition, 30% of the planning area will be retained in untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Effects of Alternative 4 (Diameter Limit) Pacific fisher: This alternative **may impact individual fisher, but is unlikely to impact populations nor to contribute to a potential loss of viability of the species**.

Potentially 551 acres of suitable habitat will be treated (427 potential denning, 124 potential foraging). Of this, 20 acres of potential foraging habitat would be lost in the short term. All existing denning habitat and the remaining foraging habitat would continue to function in those roles post treatment. Within ten years, the 20 acres of foraging habitat lost should exhibit sufficient canopy closure from growth of vine maple and other larger brush species to provide the closed-canopy and complex physical structure habitat that would allow year around foraging. At least three large diameter snags per acre, and the equivalent of three downed trees per acre will be retained within all treated stands in the planning area. In addition, 30% of the planning area will be retained in untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Survey and Manage Species

Existing Condition Great gray owl: The great gray owl is listed as a survey and manage species, Category C (Uncommon, Pre-Disturbance Surveys Practical), within the FSEIS ROD; and was previously listed as a protection buffer species in the NWFP.

Great gray owls are mostly associated with grassy meadows and openings next to forested areas, where they feed on voles and pocket gophers. Prey availability is considered a major factor in great gray owl abundance (Hayward and Verner 1994). No meadows or natural openings of adequate size occur in the planning area. Surveys of all potential habitat across the Barlow RD including the planning area have been conducted with no great gray owls found.

Effects of Alternative 1 (No Action) Great gray owl: No meadows or natural openings of adequate size occur in the planning area. There will be no impact to this species from the No Action alternative.

Effects of Alternative 2 (Proposed Action) and Alternative 4 (Diameter Limit) Great gray owl: There will be no impact to this species. No meadows or natural openings of adequate size occur in the planning area nor would any be created by these treatments.

Effects of Alternative 3 (Mt. Hood Forest Plan): There will be no impact to this species. No meadows or natural openings of adequate size occur in the planning area. It is unlikely that the openings associated with the regeneration harvest would support great gray owls as vine maple and other shrub species are expected to rapidly re-occupy those stands. This would preclude the type of hunting associated with this species.

Existing Condition Puget oregonium: This snail species has a strong riparian habitat association with permanent streams, springs and seeps; and moist shaded ravines that usually have some deciduous component. The known range of Puget oregonium is from southern Vancouver Island to the north side of the Columbia Gorge and it is considered relatively rare. No locations are expected to occur on the Barlow RD, but it is included as a species to look for in surveys. It was not found in mollusk surveys conducted for the planning area.

Effects of Alternative 1 (No Action) Puget oregonium: Habitat for this species is present or is likely to occur in the planning area. The project area was surveyed and no individuals were found.

Effects of Alternative 2 (Proposed Action), Alternative 3 (Mt. Hood Forest Plan, and Alternative 4 (Diameter Limit) Puget oregonium: The project area was surveyed and no individuals were found. This snail species has a strong riparian habitat association with permanent streams, springs, and seeps; moist shaded ravines and is usually associated with some deciduous component. No such habitat is being entered within the planning area. The riparian areas being entered do not exhibit the "moist shaded" characteristics needed by this snail. Trees being removed are those expected to die within the next twenty years or are likely to cause the death of more desirable overstory trees in that time period. Management activities are expected to retain sufficient canopy closure that the microclimatic conditions should not change significantly within the immediate riparian area as compared to what will occur within the next twenty years without treatment. In addition, 30% of the planning area will be retained in untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Existing Condition Columbia oregonium: Columbia oregonium was found at four locations in the Juncrock planning area. Habitat for this snail seems to be quite variable. The original 13 known locations were from margins of seeps and spring-fed streams in talus along the Columbia River Gorge. Columbia oregonium is not considered a strong riparian associated species. As of October 1999, it was considered rare, but was thought to occasionally be associated with mature hemlock forest with a relatively closed canopy where it was found under woody debris. After surveying about 5000 acres on the Barlow RD in the fall of 2000, of which about 2300 acres were in areas with the presence of hemlock, only the four additional Juncrock sites were found. All four new sites were in areas containing hemlock. This implies potential populations may be quite rare in suitable habitat, or that the hemlock associated habitat is only marginally suitable.

Three of the Juncrock locations are associated with relatively mature closed canopy forest with a hemlock component. One location is in a stand dominated by 8 to 20 foot tall vine maple with a light conifer overstory composing 10 to 20 percent canopy closure. Canopy closure of the vine maple is greater than 70 percent at that site. All locations found in the Juncrock area are within the hemlock zone with at least moderate levels of large woody debris and at least a minor component of hardwoods.

Effects of Alternative 1 (No Action) Columbia oregonium: Habitat for this species is present or is likely to occur in the planning area. The project area was surveyed and four sites were located.

Effects of Alternative 2 (Proposed Action), Alternative 3 (Mt. Hood Forest Plan), and Alternative 4 (Diameter Limit) Columbia oregonium: The project area was surveyed and four sites were located. All four locations of Columbia oregonium found in the Juncrock planning area will be protected. Three of the Juncrock locations are associated with relatively mature closed canopy forest with a hemlock component. The smallest protection area for these three locations is an 11.9 acre no treatment buffer. The two other locations have 10 and 11.1 acre no cut buffers but also have large untreated stands immediately adjacent that also will provide untreated habitat. The fourth location is in a 10-acre stand dominated by 8 to 20 foot tall vine maple with a light conifer overstory composing 10 to 20 percent canopy closure. This stand will not be treated and will act as a no cut buffer for the site. In addition, 30% of the planning area will be retained in untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands.

Existing Condition Dalles sideband: Dalles sideband were not found in the Juncrock planning area. This snail has generally been considered to be in talus habitat, moist rocky areas (especially around seeps and springs), and shrubby areas in riparian corridors. However, it is not found in the springs or seeps and is not considered a talus obligate.

It was considered rare as of October 1999, because, it was only known from 15 sites within the Columbia Gorge near The Dalles and the lower Deschutes River valley. However by the fall of 2000, 41 additional sites were found after surveying about 5000 acres of potentially suitable habitat on the Barlow RD. Of the over 5000 acres surveyed only about 60% had two visits, and only about 20% of the acres were actually searched. This equates to about one site per 126 acres of suitable habitat of which 40% had only been searched once. Often the second search has revealed almost as many additional sites as the first visit. This implies potential populations in suitable habitat that match some of the species that have been dropped from the survey and manage list.

Locations where Dalles sideband were found on the Barlow RD can be characterized as highly variable with total canopy closures varying from as low as 20% to 70% or greater. They are mostly in the drier, lower elevation Douglas fir and ponderosa pine/Oregon white oak plant associations. These drier habitat conditions are not found in the Juncrock planning area. Most stands have had multiple harvest entries, and many have had multiple fire entries within the past 50 years. All site locations are associated with some down wood component, however such locations are also the focal point for searches. Conditions on the planning area are generally moister, with deeper snow loads than typical for this species on the Barlow Ranger District.

Implications are that this species may not be overly sensitive to management activities as long as some large woody material is maintained on site through time. Further information may result in a change in this species status.

Effects of Alternative 1 (No Action) The Dalles sideband: The project area was surveyed and no individuals were found. Short-term impacts would be that conditions remain unchanged.

Effects of Alternative 2 (Proposed Action), Alternative 4 (Diameter Limit) Dalles sideband: Dalles sideband were not found in the Juncrock planning area, however where they have been found on the Barlow RD are characterized by highly variable with total canopy closures varying from as low as 20% to 70% or greater with most exhibiting multiple harvest entries, and many have had multiple fire entries within the past 50 years.

Relatively high levels of large woody material will be retained in all harvest areas and canopy closures are not expected to drop below the 20% level on any treatment areas. In addition, 30% of the planning area will be retained in untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands. Therefore the resulting canopy and down wood conditions from these alternatives are well within those where populations of Dalles sideband have been found.

Effects of Alternative 3 (Mt. Hood Forest Plan): Relatively high levels of large woody material will be retained in all harvest areas and canopy closures are expected to remain above 20% in all but about 310 of the treatment acres. In addition, 30% of the planning area will be retained in untreated condition, retaining all of the snags and other existing characteristics that are expected in fully functioning late successional stands. About 310 acres would have the canopy reduced below that typical of known

occupied habitat on the District. Otherwise, the resulting canopy and down wood conditions from this alternative are well within the conditions where populations of Dalles sideband have been found. The project area was surveyed and no individuals were found.

Existing Condition Evening fieldslug: This slug species was not found in the planning area. The limited available information on habitat includes varied low vegetation, litter, debris, and rocks. It appears to be very rare, with 1969 being the last report of a living Evening fieldslug. Virtually nothing is known about the range of this species, the range of habitat conditions it can tolerate, or the specific biological and physical attributes of the habitat.

No additional sites were found in a total of over 6000 acres that have been surveyed on the Barlow RD and a portion of the Zigzag RD by the fall of 2000. Habitat has varied from dry, open pine/oak plant associations to riparian hemlock associations, with and without past management activities.

Effects of Alternative 1 (No Action): The project area was surveyed and no individuals were found.

Effects of Alternative 2 (Proposed Action), Alternative 3 (Mt. Hood Forest Plan), and Alternative 4 (Diameter Limit) Evening fieldslug: The project area was surveyed and no individuals were found. The limited available information on habitat includes varied low vegetation, litter, debris, and rocks. Because of the retention of litter and debris including large wood called for in all activity areas within all these alternatives and since 30% of the planning area will be retained in untreated condition; the proposed activities would have no impact to this species**.**

Name: /s/ Richard Thurman 0/25/04