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1136 Spur Road Project Environmental Assessment



Forest Service

Siuslaw
National Forest

Hebo
Ranger District

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1 Introduction

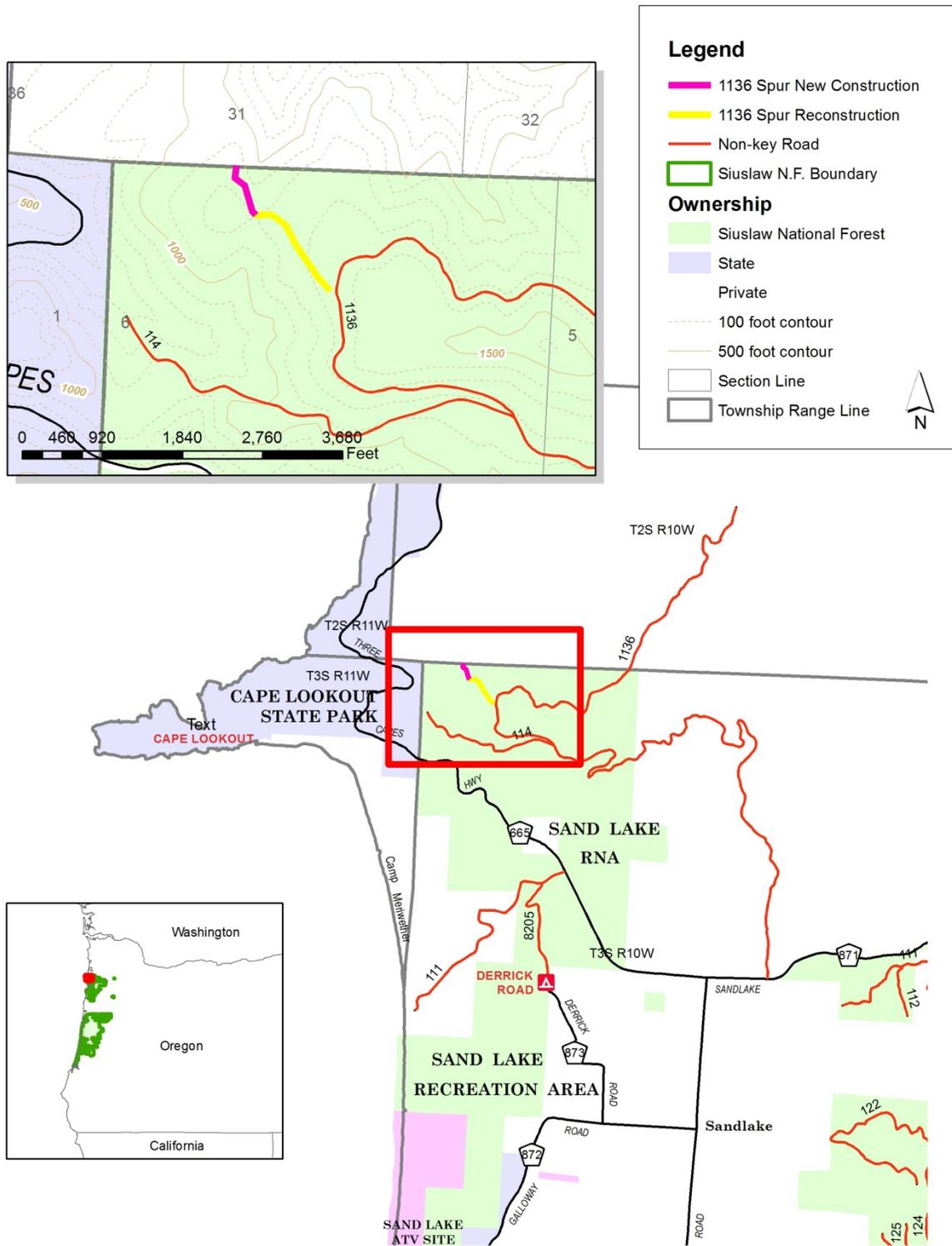
The Hebo Ranger District is proposing to issue a permit for construction of a road to access private lands adjacent to National Forest System land in the Hebo Ranger District, Siuslaw National Forest. The proposed action would reopen and improve 1300' of existing non-system road and construct 700' of new permanent road. The Hebo Ranger District prepared this Environmental Assessment (EA) to determine whether effects of the proposed project may be significant, and thus, require the preparation of an Environmental Impact Statement. If there are no significant effects determined through this analysis, a Finding of No Significant Impact will be prepared. The Hebo District Ranger will review the EA and any public comments before issuing a Decision Notice for the proposed project. If the Hebo District Ranger decides to proceed with the proposed action, Stimson Lumber Company would be issued a special use permit authorizing construction of the proposed road.

1.1 Project Area

The project area is located in the Sand Lake Watershed, Township 3S, Range 10W, Section 6 NW ¼, Willamette Meridian, Tillamook County, Oregon within the Hebo Ranger District of the Siuslaw National Forest. The proposed project area is approximately 6 miles south of the unincorporated town of Netarts and 9 miles southwest of the City of Tillamook.

The project area is relatively small, consisting of a 2,000 linear foot road and extending 50 feet in width, equaling approximately 2.29 acres. The project area is entirely within National Forest System land. Neighboring lands in the vicinity of the project include a mixture of private industrial timberlands, portions of Cape Lookout State Park, the Meriwether-Clark Scout Reservation (camps owned and operated by the Cascade Pacific Council of Boy Scouts of America) and private residences (Figure 1).

The project area is located in a young managed stand dominated by Sitka spruce (*Picea sitchensis*) and western hemlock (*Tsuga heterophylla*). Red alder (*Alnus rubra*) and douglas fir (*Pseudotsuga menziesii*) are also present. Young conifer plantations like this occupy over 40% of the Sand Lake watershed, with many of those stands under ownership of private timber companies (USDA 1998). The overall vegetation pattern of the watershed is highly fragmented with most of the forested areas logged at some time in the past (USDA 1998).



1.2 Management Framework

This EA has been completed in accordance with direction contained in the National Forest Management Act, the National Environmental Policy Act, the Council on Environmental Quality regulations, Clean Water Act, the Endangered Species Act, and other applicable laws, regulations, and guidance.

The proposed 1136 Spur Road Project is tiered to the Siuslaw National Forest Land and Resource Management Plan Final Environmental Impact Statement (“Siuslaw Forest Plan,” USFS 1990a, b) and Record of Decision (USDA 1990c), as amended.

The Siuslaw Forest Plan, as amended, established the management direction, desired conditions, and standards and guidelines under which National Forest System (NFS) lands administered by the Siuslaw National Forest are managed. This EA incorporates by reference the Siuslaw Forest Plan (USDA 1990a). All relevant aspects of the Forest Plan, as amended, including management area standards and guidelines and land allocations apply to this project. The Region 6 Invasive Plants FEIS also amended the Siuslaw Forest Plan and applies to this project (USDA 2005a).

The Forest Plan guides all natural resource management activities and establishes management standards and guidelines for the Forest. The Forest Plan also provides goals, objectives, and desired future conditions of management areas and describes resource management practices, levels of resource production and management, and the availability and suitability of lands for resource management. The intent of the amended Siuslaw Forest Plan is to provide healthy ecosystems that protect riparian areas and water quality, and provide adequate habitat to maintain viable populations of terrestrial and aquatic species.

The following Forest Plan amendments also provide management direction for the project area:

Northwest Forest Plan - Record of Decision for Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl and Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl (USDA USDI 1994c), establishes the management direction, desired conditions, and standards and guidelines under which late-successional reserves, adaptive management areas and riparian reserves are managed. The Northwest Forest Plan provides the opportunity to produce timber as a by-product of treating stands located in late-successional reserves, adaptive management areas, and riparian reserves.

Region 6 Invasive Plant FEIS - The Final Environmental Impact Statement (FEIS) for the Pacific Northwest Region Invasive Plant Program: Preventing and Managing Invasive Plants (USDA 2005a), provides direction including invasive plant prevention and treatment/restoration standards intended to help achieve stated desired future conditions, goals, and objectives.

Additional guidance for the project area is provided by the Assessment Report for Federal Lands in and Adjacent to Oregon Coast Province (USDA USDI 1995), the Late-Successional Reserve Assessment for Oregon’s Northern Coast Range Adaptive Management Area (USDA USDI 1998), the Oregon Northern Coast Range Adaptive Management Area (AMA) Guide (USDA USDI 1997), and the Sand Lake Watershed Analysis (USDA 1998). These documents provide guidance and recommendations for determining more specific desired conditions for attaining agency goals.

1.3 Land Allocations

1.3.1 Northwest Forest Plan Land Allocations

1.3.1.1 Northern Coast Range Adaptive Management Area (AMA)

The project area is within the Northern Coast Range Adaptive Management Area. The purpose of the AMA is to provide opportunities for development, demonstration, and testing of techniques that range from restoration of late-successional forest conditions and riparian zones to integration of commercial timber harvest with ecological objectives (USDA USDI 1994a). The objectives for managing federal lands in the Northern Coast Range AMA are to restore and maintain late-successional forest habitat while providing more flexibility to explore innovative methods; develop strategies for conserving biodiversity; and provide social and economic benefits to local communities (USDA USDI 1997a). All AMAs are expected to produce timber as part of their program of activities consistent with Northwest Forest Plan standards and guidelines.

1.3.1.2 Late Successional Reserve (LSR)

Although there are some lands designated as Late Successional Reserve in the southeast portion of the Sand Lake watershed (approximately 4-5 miles SE of the project), the proposed project is not within any LSR.

1.3.1.3 Riparian Reserves

Riparian Reserves include lands along streams and unstable areas where riparian-dependent resources receive primary emphasis and where special standards and guidelines apply (USDA USDI 1994c). No project activities are proposed within Riparian Reserves.

1.3.2 Sand Lake Research Natural Area (RNA)

Sand Lake RNA (241 acres) is located one mile southeast of the project area. This RNA consists mainly of a large parabola dune system that includes both vegetated and unvegetated dune communities. The objective of the Sand Lake RNA is to preserve the native dune community of the unstabilized dune grassland and associated adjacent forest and aquatic habitats in the RNA (USDA 1995).

1.3.3 Management Area 4 - Bald Eagle Habitat

The primary goals for MA 4 are to provide effective nesting habitat for bald eagles and to assist recovery of the species (USDA 1990). Standards and Guidelines for this management area relevant to the proposed project include: "Construct roads on a case-by-case basis if environmental analysis shows that goals of the MA will be met."

1.4 Need for the Proposal

The purpose and need for the project are to respond to Stimson Lumber Company's request for access across National Forest System lands. In 2010 Stimson Lumber Company began construction of an access road across their land. This route, consisting of side slopes from 60-90% would require full bench construction and a large fill over an unnamed intermittent drainage and has the potential for slope failure, even with a high level of engineering design and construction control. Because of concerns related to the stability of the route, and potential risk to a domestic water supply, the Cape Lookout Highway, and a fish-bearing stream, Stimson halted construction. As a result, Stimson seeks permission to access its property by crossing National Forest System lands. The Hebo Ranger District identified a route providing adequate access to Stimson's property that utilizes an existing non-system

spur road as well as 700 feet of new road construction. The proposed route would be a spur road off Forest Road 1136, which is currently managed for administrative use only. The road would be used by Stimson Lumber Company to access their property and by the Forest Service to manage adjacent forest stands on National Forest System land.

The Forest Service is required to respond to a formal request for transportation and utility systems and facilities on federal lands (36 CFR §251, Subpart D). Title 36 of the Code of Federal Regulations (CFR), Chapter II, Subpart D - Access to Non-Federal Lands, establishes the procedures the Forest Service follows in evaluating proposals for access and defines the criteria, terms and conditions for the use of the access. The Forest Service has the discretion to determine the location, design, and extent of access to be granted across National Forest System lands.

1.5 Decision Framework

The Responsible Official for this project is the Hebo District Ranger. This EA discloses the potential environmental effects of implementing the alternatives. In consideration of the purpose of and need for the project and upon reviewing the proposed action, alternatives and their environmental impacts, the Hebo District Ranger will issue a Decision Notice that addresses the following questions:

- To what extent, if any, would actions called for in the proposed project or alternatives be implemented?
- What management requirements and mitigation measures (project design criteria) would be applied to these actions?
- Would the project require a Forest Plan amendment?
- Is there is a significant effect on the human environment that would require preparation of an Environmental Impact Statement?

The Decision Notice will document the District Ranger's decision and describe what actions will be implemented to address the issues. The decision will be consistent with the Siuslaw Forest Plan, as amended by the Northwest Forest Plan.

2 Alternatives

2.1 Alternative 1 (No Action)

The No Action alternative forms the basis for a comparison between meeting the project needs and not meeting the project needs. This alternative provides baseline information for understanding changes associated with the action alternative and expected environmental responses.

Under the No Action Alternative, there would be no access road construction on National Forest System land. Stimson Lumber Company would be precluded from accessing their land adjacent to the project area unless they pursued construction of a road on steeper slopes across their land (see section 1.4).

2.2 Alternative 2 (Proposed Action)

The proposed action would issue a special use permit allowing construction and use of a permanent system road across National Forest System land. The road would be approximately 2,000 feet in length from FR 1136 to the boundary of Forest Service ownership. This road would be designed and constructed to Forest Service standards within a 50-foot wide right-of-way for construction. All of the proposed route would be on National Forest System lands. The proposed action includes new

construction of approximately 700 feet of permanent roadway that mostly follows old tractor skid roads, and reconstruction of approximately 1,300 feet of existing rocked roadbed. The road would be constructed on a ridge top, in an existing Forest Service plantation, and would not cross drainages, seeps, or any sensitive habitats.



Figure 2. Existing road bed proposed for reconstruction.



Figure 3. The surrounding forest stand is a densely-stocked plantation.



Figure 4. Location of the junction between Forest Service Road 1136 and the proposed spur.



Figure 5. Location of boundary between the end of the proposed 1136 spur and the adjacent private timberland.

3 Environmental Impacts of the Proposed Action and Alternatives

This chapter discloses the potential environmental consequences (direct, indirect, and cumulative effects) of the proposed action and the no action alternative, which serves as a reference to the baseline existing condition. This EA incorporates by reference the project record (40 CFR 1502.21). The project record contains specialist reports, biological evaluations, and other technical documentation used to support the analysis and conclusions in this EA. Where specific effects are not described for a particular resource, effects are not expected to be measurably different from those under baseline conditions. Many components of the ecosystem that cannot be precisely quantified are described in relative terms or estimated values. Each specific resource area determined their area of analysis to fit the specific requirements of their resource.

3.1 Wildlife

3.1.1 Threatened, Endangered or Proposed ESA Listed Species

The marbled murrelet and the northern spotted owl are federally listed as “threatened” under Section 4 of the Endangered Species Act. No other federally listed species occurs within or near the proposed project area (Table 1).

Table 1. Threatened (T), and USFS Region 6 Sensitive (S) wildlife species documented or suspected to occur on the Siuslaw National Forest.

Status	Scientific Name	Common Name	Habitat in analysis area?
T	<i>Brachyramphus marmoratus</i>	Marbled murrelet	Yes
T	<i>Strix occidentalis caurina</i>	Northern spotted owl	Yes
T	<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	No
T	<i>Speyeria zerene hippolyta</i>	Oregon silverspot butterfly	No
S	<i>Pelecanus occidentalis californicus</i>	California brown pelican	No
S	<i>Branta Hutchinsii leucopareia</i>	Aleutian Canada goose	No
S	<i>Falco peregrinus anatum</i>	American peregrine falcon	No
S	<i>Haliaeetus leucocephalus</i>	Bald eagle	No
S	<i>Progne subis</i>	Purple martin	No
S	<i>Rana boylei</i>	Foothill yellow-legged Frog	No
S	<i>Actinemys marmorata</i>	Pacific pond turtle	No
S	<i>Arborimus longicaudus</i>	Oregon red tree vole	Yes
S	<i>Gulo gulo luscus</i>	North American wolverine	No
S	<i>Martes pennanti</i>	Fisher	No
S	<i>Myotis thysanodes</i>	Fringed myotis	No
S	<i>Gonidea angulata</i>	Western ridged mussel	No
S	<i>Cryptomastix devia</i>	Puget Oregonian	No
S	<i>Littorina subrotundata</i>	Newcomb's littorine snail	No
S	<i>Deroceras hesperium</i>	Evening fieldslug	No
S	<i>Pomatiopsis californica</i>	Pacific walker	No
S	<i>Cicindela hirtocollis Siuslawensis</i>	Siuslaw sand tiger beetle	No
S	<i>Pterostichus rothi</i>	Roth's blind ground beetle	No

Status	Scientific Name	Common Name	Habitat in analysis area?
S	<i>Lygus oregonae</i>	Oregon plant bug	No
S	<i>Bombus occidentalis</i>	Western bumblebee	No
S	<i>Callophrys johnsoni</i>	Johnson's hairstreak	No
S	<i>Callophrys polios maritima</i>	Hoary elfin	No
S	<i>Plebejus saepiolus littoralis</i>	Insular blue butterfly	No
S	<i>Namamyia plutonis</i>	A caddisfly	No
S	<i>Rhyacophila haddocki</i>	Haddock's rhyacophilan caddisfly	No

3.1.1.1 Marbled Murrelet

Marbled murrelets, a robin sized seabird that nests in the coast range, are closely associated with late-successional and old growth habitat. The species was listed as threatened due to the “loss and modification of nesting habitat (older forests) primarily due to commercial timber harvesting.” Mortality associated with gill netting off the coast of Washington and from oil spills were also identified as threats to the species.

3.1.1.1.1 Direct and Indirect Effects

The Siuslaw National Forest is part of the North Coast Planning Province. In conjunction with the Salem and Eugene BLM Districts the Forest consults programmatically on project activities that may affect marbled murrelets. The most recent biological opinion concerning habitat modification and disturbance evaluated the effects from activities planned in fiscal years 2015-2016 (USFWS 2014) and included coverage for road construction outside of critical habitat.

Alternative 1 (No Action)

Alternative 1 would have *no effect* to marbled murrelets in the project area because a permit would not be issued for road construction on National Forest System land.

Alternative 2 (Proposed Action)

Habitat Effects

There are currently 165 acres of mapped suitable habitat in National Forest ownership within the project area, but greater than ¼ mile from the proposed road construction activities. All forested areas on federal lands within the immediate vicinity (¼ mile) of the proposed road construction and reconstruction is comprised of young densely stocked plantations that are between 48 and 55 years of age, which is not suitable habitat for marbled murrelets. Therefore under Alternative 2, the proposed road construction/reconstruction would have *no effect* on marbled murrelets due to habitat modification.

Disturbance Effects

The FWS programmatic consultation which covers this project defines disturbance distance as that distance from the project boundary outward within which the action is likely to cause a listed species if present, to be distracted from its normal activity when within the breeding season. For murrelets this distance is ¼ mile and the breeding season is April 1 – September 15. Disruption distance is defined as the distance from the project boundary outward within which the action is likely to cause spotted owls or murrelets, if present, to be distracted to such an extent as to significantly disrupt normal behavior and create the likelihood of harm or loss of reproduction. The disruption distance is a subset of the disturbance distance. For murrelets, the disruption distance associated with the activity of road construction is 110 yards during the breeding season. All project activities are outside

of the disturbance and disruption distances. Therefore under Alternative 2, the proposed road construction/reconstruction would have *no effect* to marbled murrelets due to disturbance.

Effects to Critical Habitat

There is no designated critical habitat within the Project area. Therefore there would be *no effects* to critical habitat from the proposed road construction/reconstruction.

Cumulative Effects

There would be no cumulative effects because the proposed action would not directly or indirectly affect marbled murrelet or its designated critical habitat.

3.1.1.2 Northern Spotted Owl (*Strix occidentalis caurina*)

Northern spotted owls are closely associated with late-successional and old growth habitat. The species was listed as threatened primarily “due to the loss and adverse modification of suitable habitat as a result of timber harvesting, and exacerbated by catastrophic events such as fire, volcanic eruption and windstorms” (USDI 1990).

3.1.1.2.1 Direct and Indirect Effects

The Siuslaw National Forest is part of the North Coast Planning Province. In conjunction with the Salem and Eugene BLM Districts the Forest consults programmatically on project activities that may affect spotted owls. The most recent biological opinion concerning habitat modification and disturbance evaluated the effects from activities planned in fiscal years 2015-2016 (USDI 2014) and included coverage for road construction outside of critical habitat.

Alternative 1 (No Action)

Alternative 1 would have *no effect* to northern spotted owl in the project area because a permit would not be issued for road construction on National Forest System land.

Alternative 2 (Proposed Action)

Habitat Effects

Within the project area, there are no known spotted owl nest sites. Analysis of habitat within the vicinity of the project area determined that there are no predicted nest sites. Of the 5,332 acres within the project area, 1,635 are managed as National Forest. Of these, 1,108 are densely stocked plantations between 48 and 55 years of age resulting from past clearcutting which are considered dispersal habitat for owls, and the remainder is not forested.

While the proposed construction of 700' of new road, and the reconstruction of 1300' of existing road prism will remove some dispersal habitat within the road corridor, dispersal habitat is not limited in the area, and movement between blocks of suitable habitat would not be limited as a result of this project. Therefore under Alternative 2, the proposed road construction/reconstruction would *not likely adversely affect* spotted owls due to habitat modification.

Disturbance Effects

The FWS programmatic consultation which covers this project defines disturbance distance as that distance from the project boundary outward within which the action is likely to cause a listed species if present, to be distracted from its normal activity when within the breeding season. For owls this distance is ¼ mile and the breeding season is March 1 to July 15. Disruption distance is defined as the distance from the project boundary outward within which the action is likely to cause spotted owls or murrelets, if present, to be distracted to such an extent as to significantly disrupt normal behavior and create the likelihood of harm or loss of reproduction. The disruption distance is a subset of the disturbance distance. For owls, the disruption distance associated with the activity of road

construction is 65 yards during the breeding season. All project activities would take place beyond both the disturbance and disruption distances from known or predicted nest patches. Therefore under Alternative 2, the disturbance due to the proposed road construction/reconstruction would have *no effect* to spotted owls due to disturbance.

3.1.1.2.2 Effects to Critical Habitat

There is no designated critical habitat within the project area. Therefore there would be *no effect* to critical habitat from the proposed road construction/reconstruction.

3.1.1.2.3 Cumulative Effects

There would be no cumulative effects because the proposed action would not directly or indirectly affect northern spotted owl or its designated critical habitat.

3.1.2 Regional Forester's Sensitive Species

For Region 6 of the Forest Service, Sensitive Species are defined as those plant and animal species identified by a Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or density and habitat capability that would reduce a species' existing distribution (FSM 2670.5). Management of sensitive species "must not result in a loss of species viability or create significant trends toward federal listing" (FSM 2670.32). The Regional Forester is responsible for identifying sensitive species and shall coordinate with federal and state agencies and other sources, as appropriate, in order to focus conservation management strategies and to avert the need for Federal or State listing as a result of National Forest management activities. The species suspected or documented to be found on the Hebo Ranger District were analyzed (Table 2) to determine if habitat for them was present in the proposed project area and if the project would have any impact on the population Forest-wide. Where no suitable habitat was determined to be present, there would be no impact and no further analysis was conducted.

3.1.2.1 Oregon Red Tree Vole

Red tree voles are arboreal and closely associated with late-successional and old growth habitat. The current conditions associated with suitable habitat in the planning area for red tree voles are similar to those discussed for marbled murrelets and northern spotted owls. Red Tree Voles are a species for which pre-disturbance surveys are required under the Northwest Forest Plan in areas containing suitable habitat as outlined in the red tree vole survey protocol (Huff et al. 2002). All sites discovered during these surveys are then managed to protect the sites. When forest stands do not meet the minimum criteria described in the survey protocol, then it is considered to not be composed of "suitable habitat that may potentially contribute to a reasonable assurance of persistence" and surveys are not required (Huff et al. 2002). Red tree voles have been documented in younger stands, but it is thought that these stands may be acting as population sinks (Carey 1991). Active nests have also been found in remnant older trees in younger stands indicating the importance of legacy structural characteristics (Biswell unpublished data).

3.1.2.1.1 Direct and Indirect Effects

Alternative 1 (No Action)

Alternative 1 would have *no effect* on red tree vole in the project area because a permit would not be issued for road construction on National Forest System land.

Alternative 2 (Proposed Action)

The young plantations in the vicinity of the project are densely stocked plantations between 48 and 55 years of age resulting from past clearcutting and are not considered suitable habitat for red tree voles that may potentially contribute to a reasonable assurance of persistence and do not require pre-disturbance surveys to be completed prior to project activities. While tree voles have been documented in younger stands, as mentioned above, these are thought to be population sinks. Design criteria for this project require that any site discovered incidentally during the project be protected from damage and immediately disclosed to the District wildlife biologist to determine management requirements. Therefore, the proposed road construction and reconstruction in these young stands *may impact individuals* but the effects would not contribute to a trend towards federal listing or cause a loss of viability to the population or the species.

3.1.2.2 Fringed Myotis

Fringed myotis appear to be most common in drier woodlands but is found in a wide variety of habitats including desert scrub, mesic coniferous forest, grassland, and sage-grass steppe. Throughout its range, the bats are known to roost in decadent trees and snags especially large ones in a variety of species, although it is thought that tree height and stage of decay play a larger role than species in the selection of roosts. It feeds predominately on beetles and moths although but also has been documented to feed on non-flying insects such as crickets, spiders and harvestmen indicating the ability to glean prey from vegetation in addition to capturing prey in flight. This, in addition to other morphological adaptations, indicates that the fringed myotis is adapted for foraging within forest interior and along forest edges. Main threats to the species loss or modification of roosting habitat, including human activity associated with mines, loss of large, decadent trees, loss of large blocks of forestland and replacement of buildings and bridges with non- bat friendly structures.

3.1.2.2.1 Direct and Indirect Effects**Alternative 1 (No Action)**

Alternative 1 would have *no effect* on fringed myotis in the project area because a permit would not be issued for road construction on National Forest System land.

Alternative 2 (Proposed Action)

The young plantations in the vicinity of the project are densely stocked plantations between 48 and 55 years of age resulting from past clearcutting. No large or decadent trees containing roosting structure would be removed as part of this project. There are no human structures or mines within the project area. The construction of 700' of new road would require trees to be cut within the right of way (ROW); however there are no large or decadent trees containing roosting structure within the ROW. The reconstruction of 1,300' of existing roadway would require that some small trees be cut, but none are trees that have characteristics of roost trees. A portion of felled trees would be retained on site but outside of the road prism where possible to provide for down wood prey habitat. Therefore, the proposed road construction and reconstruction may impact individuals but the effects would not contribute to a trend towards federal listing or cause a loss of viability to the population or the species.

3.1.2.3 Roth's Blind Ground Beetle

The species has been collected at four localities in Oregon and is thought to be restricted to the northern Oregon coast. Only one of the known locations is within the Hebo Ranger District and is located on private land in the Schooner Creek area in Lincoln County. This species appears to be restricted to cool, moist, closed-canopy coniferous forests with relatively steep, well drained, deep, coarse-crumb structure soils. Individuals of this species can be found under rocks and logs that are

deeply embedded into the soil where they build a network of tunnels (Applegarth 1995). The sites where the species has been collected were relatively steep, on small terraces that result from soil slumping, and where large logs or rocks would not be susceptible to movement. At the Schooner Creek site the forest was 40 year old closed-canopy western hemlock with sparse understory (LaBonte 1993).

Populations appear to be relatively stable. Main threats include loss of late-successional forest and coarse woody debris in managed stands, which may serve as refugia for the species. Roth's blind ground beetle seems to be tolerant of fire and intensive logging. These types of disturbance probably have a smaller impact when they occur in the summer months, the season during which the beetles have burrowed deep below rocks and logs seeking moist soil.

3.1.2.3.1 *Direct and Indirect Effects*

Alternative 1 (No Action)

Under the no action alternative, no reconstruction and associated activities would occur on Forest Service land. Therefore, Alternative 1 would have no direct or indirect effects to Roth's blind ground beetles in the project area.

Alternative 2 (Proposed Action)

The proposed road construction is of a small scale and scope on relatively flat terrain. Road construction activities could directly impact individual beetles if they are present at the site. However, the potential impact of the proposed action is relatively small given that construction work would occur in the dry season, during which most beetles are deeper in the soil profile. Given the above information about the preferred habitat and population, the small scale of disturbance on the landscape, and the incorporation of design criteria to leave felled wood on site, the proposed road construction and reconstruction may impact individuals but the effects would not contribute to a trend towards federal listing or cause a loss of viability to the population or the species.

Table 2. Summary of the effects to Forest Service Sensitive wildlife species and Survey and Manage wildlife species.

Species	Habitat	Suitable Habitat Present	Impact of Proposed Action ^a
Aleutian Canada Goose	Winters on pastures and grainfields, roosts on inland lakes and coastal islands	No	No Impact
American Peregrine Falcon	Nests and feeds along coast near cliffs and headlands	No	No Impact
Bald eagle	Nests and roosts in mature forests near lakes, coast, rivers	No	No Impact
California Brown Pelican	Lakes, estuaries, coastlines, and bays	No	No Impact
Purple Martin	Variety of terrestrial habitats, preferably near open water with access to natural or artificial cavities (snags, bird houses, pilings etc.)	No	No Impact
Foothill Yellow-legged frog	Known distribution does not occur on SNF, but species is suspected on eastern foothills. Highly aquatic and found in vicinity of permanent streams with open cobble gravel bars	Not known to occur on the Hebo Ranger District	No Impact
Pacific pond turtle	Ponds, slow moving water mostly in Willamette Valley	No	No Impact
Oregon red tree	Mature and overmature/oldgrowth conifer dominated	Yes	MIH

Species	Habitat	Suitable Habitat Present	Impact of Proposed Action ^a
vole	stands, and some younger stands containing suitable nesting structure		
North American wolverine	Subalpine, remote forest areas. Extirpated in Coast Range	Not known to occur on the Hebo Ranger District	No Impact
Fisher	Mature and over mature/old growth conifer dominated stands	No	No Impact
Fringed myotis	Utilize caves, mines, and buildings for hibernation, maternity, and solitary roosts. Feed predominately on moths along forest edges, roads, or open areas within the forest. Utilizes, but not dependent upon snags or down material.	Yes	MIH
Western ridged mussel	Freshwater mussels that are associated with host fish in streams with low shear stress and flow refuges	No	No impact
Puget Oregonian	mature to old growth, moist forest and riparian habitats, under logs, in leaf litter, around seeps and springs, and often associated with coarse woody debris and leaf litter and/or talus. Almost always associated with bigleaf maple.	Not known to occur on the Hebo Ranger District	No Impact
Evening Fieldslug	The Evening Fieldslug has been reported to be associated with wet meadows in forested habitats in a variety of low vegetation litter and debris; rocks may also be used. Little is known about this species or its habitat. Surveys may be limited to moist surface vegetation and cover objects within 30 m. (98ft.) of perennial wetlands, springs, seeps and riparian areas.	No	No Impact
Newcomb's Littorine Snail	Inter-tidal habitat on glasswort/pickleweed salt marshes at the edges of bays and estuaries.	No	No Impact
Pacific Walker	Semiaquatic; characteristically found among wet leaf litter and vegetation beside flowing or standing water in shaded situations where humidity remains high. Range limited to coastline, inland up to 0.5 miles.	No	No Impact
Siuslaw Sand tiger beetle	The immediate sandy edge of river mouths on beaches along the Pacific Ocean.	No	No Impact
Roth's Blind Ground Beetle	Restricted to cool, moist, closed-canopy coniferous forests with well drained, deep, coarse-crumb structure soils that have developed in place, not alluvial soils on floodplains. Associated with deeply embedded rocks and logs on slopes 20-50%.	Yes	MIH
Oregon Plant bug	Host-specific and lives on <i>Ambrosia chamissonis</i> (Beach-bur) a composite associated with open sand adjacent to tidal influence.	No	No Impact
Western Bumblebee	wide variety of natural, agricultural, urban, and rural habitats, although species richness tends to peak in flower-rich meadows of forests and subalpine zones - now largely confined to high elevation sites and areas east of the Cascade Crest	No	No Impact
Johnson's Hairstreak	Old-growth and late successional second growth coniferous forests that contain mistletoes of the genus <i>Arceuthobium</i> . The mistletoes occur mainly on western hemlock and occasionally true fir.	No	No Impact

Species	Habitat	Suitable Habitat Present	Impact of Proposed Action ^a
Hoary Elfin	All life stages are closely associated with kinnikinnick. Oregon populations occupy sites on coastal bluffs and ancient sand dunes	No	No Impact
Insular blue butterfly	Coastal terrace meadows. The species overwinters as early instar caterpillar in flower head of host clover	No	No Impact
A Caddisfly (Namamyia plutonis)	Small, cool, densely forested streams in old-growth or mature forest watersheds	Not known to occur on the Hebo Ranger District	No Impact
Haddock's rhyacophilan caddisflies	Cool mountain streams in the Mary's Peak area.	Not known to occur on the Hebo Ranger District	No Impact

^a MIIH = May Impact Individuals or Habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species

3.1.3 Survey and Manage Species

A literature review, conservation assessments, and survey protocols (<http://www.blm.gov/or/plans/surveyandmanage/index.htm>) were used to assess species habitat requirements and was used to compare existing habitat conditions based on field visits and GIS analysis to suggest potential presence of species and the effect the project would have on that species. Professional knowledge and experience with the species was used to determine the effect the project would have on each species analyzed. Field reconnaissance, consultation with the silviculturist and GIS analysis was used to determine habitats that were present in the project area.

Survey and Manage are a set of standards and guidelines associated with the 1994 Record of Decision (ROD) as part of the Northwest Forest Plan (USDA USDI 1994). They are intended to mitigate potential effects of agency actions to a number of species of flora and fauna which are assigned to one of six categories based upon the relative rarity of the species, the practicality of conducting pre-disturbance surveys and which are thought to be associated with late-successional or old growth forests.

Red tree voles are a species for which pre-disturbance surveys are required under the Northwest Forest Plan in areas containing suitable habitat as outlined in the red tree vole survey protocol (Huff et al. 2002). All sites discovered during these surveys are then managed to protect the sites. When forest stands do not meet the minimum criteria described in the survey protocol, then it is considered to not be composed of "suitable habitat that may potentially contribute to a reasonable assurance of persistence" and surveys are not required (Huff et al. 2002).

The young plantations in the vicinity of the project are densely stocked plantations between 48 and 55 years of age resulting from past clearcutting and are not considered suitable habitat for red tree voles that may potentially contribute to a reasonable assurance of persistence and do not require pre-disturbance surveys to be completed prior to project activities.

Effects to red tree voles are disclosed in section 3.1.2.1.

3.1.4 Wildlife Management Indicator Species (MIS)

The Siuslaw National Forest Land and Resource Management Plan Final Environmental Impact Statement (FEIS) (USDA 1990) identified 11 terrestrial and 1 aquatic management indicator species. The EIS stated the following: “Management indicator species were selected because a change in their population, in response to management activities, is believed to represent changes in a larger group of species. Selection of management indicator species was based on the following categories as specified in 36 CFR 219.19:”

1. Endangered and threatened plant and animal species identified on state and federal lists for the planning area.
2. Species with special habitat requirements that may be influenced significantly by planned management programs.
3. Species commonly hunted, fished, or trapped.
4. Non-game species of special interest.
5. Additional species selected because their population changes are believed to indicate the effects of management activities on other species of selected major biological communities or on water quality.

Table 3 summarizes the information on the 11 terrestrial management indicator species identified in the FEIS. The Record of Decision (ROD) for the Siuslaw National Forest Land and Resource Management Plan Final Environmental Impact Statement did not change the management indicator species list and there have been no subsequent forest plan amendments that changed the list. On the date the Record of Decision was signed (March 7, 1990), there were five species listed on the Endangered Species Act of 1973 as amended (ESA) including four species that were previously identified as endangered under the Endangered Species Preservation Act of 1966. Since 1990's, four of the listed species are considered fully recovered and have been removed from the endangered species list. Two management indicator species were added to the endangered species list after the ROD was signed. Thus the table reflects both the basis for why the species was included as a management indicator species at the time of the final EIS as well as its current legal status under the Endangered Species Act.

Four of the management indicator species on the Siuslaw are primarily associated with coastal habitats (deflation plain wetlands, beach/estuary environments, coastal bluffs/cliffs). Three of the four (Aleutian Canada goose, brown pelican and peregrine falcon) are considered fully recovered and have been removed from the endangered species list. Their primary habitats, and thus the basis for their decline, recovery objectives and ultimate recovery were associated with habitats and populations not associated with lands administered by the Siuslaw National Forest. Management for the Aleutian Goose (nests in the Aleutian's) and brown pelican (nests in southern California-northern Mexico) was primarily to insure protection of potential habitat that may be used in the Oregon Dunes National Recreation Area during the non-breeding season for these two species.

The management objectives, standards and guidelines and associated monitoring questions associated with management indicator species was based on the land allocations and anticipated management actions associated with the 1990 Forest Plan. The majority of the forest was identified as being in MA 15 Timber/Wildlife/Fish with the primary emphasis on producing timber while maintaining and or enhancing fish and wildlife habitat. The 467,361 acres in this allocation included about 340,344 acres considered suitable for timber harvest and about 127,000 that were considered unsuitable for timber harvest. Additional harvest was planned from MA 14 (33,666 acres) which was equally split between

suitable and unsuitable for timber harvest. At the time about 193,400 acres of the 357,200 acres considered suitable were over 80 years of age. Planned harvest included about 5,200 acres of regeneration harvest and about 600 acres of commercial thinning per year. Between 1990 and 1994 about 9,100 acres have been regeneration harvested and planted, with all sales being planned and sold prior to the Siuslaw Forest Plan being fully implemented. Between 1995 and 1997 about 800 acres were planted after regeneration harvest activities were completed. These last sales were primarily regeneration of alder stands.

The Northwest Forest Plan significantly changed the land allocations and management objectives of the Forest but did not change the management indicator species to reflect the amended forest plan. Considering the land allocations currently in place, less than 5% of the Siuslaw land base is in an allocation that would allow for regeneration harvest activities. No timber sales sold since 1991 on the Siuslaw have included regeneration harvest of mature conifer habitat. Thus the amount of mature habitat for northern spotted owl, pileated wood peckers, and marten on the Siuslaw National Forest, has not significantly changed since the Northwest Forest Plan was adopted. The loss of snags due to regeneration harvest activities has also been reduced. Overall as stands mature, an increase in snags is anticipated in natural stands. Early seral habitat conditions (preferred by elk for forage) from past regeneration harvest have been lost due to the maturation of plantations past 15 years of age. The vast majority of plantations are over 20 years of age.

The potential effects from the proposed project to the spotted owl were disclosed in earlier sections. There is no habitat within the project area for the Aleutian Canada goose, bald eagle, brown pelican, Oregon silverspot butterfly, peregrine falcon or western snowy plover, therefore the proposed treatments would have *no effect* to these species. Pileated woodpeckers, marten and primary cavity nesters

3.1.4.1 Pileated Woodpeckers, marten and primary cavity nesters

Mature conifer habitat along with deadwood in the form of snags and downed wood are important habitat components for pileated woodpeckers, martens and primary cavity nesters. The late-successional reserve assessment for this planning area (USDA USDI 1998) documents the stand structure and composition of mature natural stands.

The Northwest Forest Plan EIS (Appendix H of the EIS) included a viability assessment for species associated with late-successional and old-growth forests. Based on the amount of remaining suitable habitat associated with late successional and riparian reserves in the Oregon coast range, the assessment concluded that populations of pileated wood peckers, marten and primary cavity nesters would remain viable in the coast range.

3.1.4.1.1 Direct and Indirect Effects

Alternative 1 (No Action)

Under the no action alternative, no reconstruction and associated activities would occur on National Forest System land. Therefore, selection of Alternative 1 would have no effect to pileated woodpeckers, marten, and primary nesters in the project area.

Alternative 2 (Proposed Action)

Habitat in the vicinity of the project area is comprised entirely of young densely stocked plantations between 48 and 55 years of age resulting from past clearcutting, and is deficient in snags and down wood. The removal of small trees required for the road construction and reconstruction *may impact individuals but the effects would not contribute to a trend towards federal listing or cause a loss of viability to the population or the species.*

Table 3. Siuslaw National Forest Management Indicator Species (MIS).

Species	Forest Plan EIS (Table III-15, pg III-68) Habitat Feature	Specific Habitat in Siuslaw N.F.	Nature Serve	State Status	Federal Status
Aleutian Canada goose	T&E habitat	Inland lakes and large expanses of flooded deflation plain on the Oregon Dunes NRA for potential migratory/transitory habitat-little if any suitable feeding habitat.	G5T4S2N		Listed Endangered 3/11/1967 Reclassified Threatened 1/11/1991 Delisted 3/20/2001
Bald eagle	T&E habitat	Multi-storied stands with old-growth components near water bodies which support an adequate food supply. Includes large conifer trees or snags(50-90 inches in diameter)	G5S4BS4N	Threatened	Listed Endangered 3/11/1967 Reclassified Threatened 8/11/1995 Delisted 8/8/2007
Brown pelican	T&E habitat	Resting/roosting in estuaries and along beaches on the Oregon Dunes NRA.	G4T3S2N	Endangered	Listed Endangered 6/2/1970 Delisted 12/17/2009
Marten	Mature conifer (down logs)	Mature and older age stands of timber	G5S3S4	Sensitive/ Vulnerable	
Northern spotted owl	Old growth & mature conifer	Old growth and mature conifer habitat(large trees, multi-storied, large snags, down logs)	G3T3S3	Threatened	Listed Threatened 6/26/1990
Silverspot Butterfly	T&E habitat	Open coastal grasslands, including ocean spray meadows	G5T1S1		Listed Threatened 7/2/1980
Peregrine falcon	T&E habitat	Rocky cliffs with ledges for nesting near foraging areas	G4T4S2B	Sensitive/ Vulnerable	Listed Endangered 6/2/1970 Delisted 2/25/1999
Pileated woodpecker	Mature conifer (large snags, down logs)	Large snags, defective trees, down material.	G5S4	Sensitive/ Vulnerable	
Primary cavity excavators	Snags (≥20" dbh)	Dead and defective trees throughout the forest types.			
Roosevelt Elk	Mix of forage and cover areas	Mosaic of foraging areas close to thermal and hiding cover.	G5		
Western Snowy Plover	Open sand near estuaries	Sandy areas virtually devoid of vegetation, driftwood,.	G4T3S3B	Sensitive/ Critical	Listed Threatened 3/5/1993

3.1.4.2 Elk

Roosevelt Elk are found throughout the project area and use all seral habitats. Larger herds tend to associate with large open meadows and fields typically associated with agricultural lands that are adjacent to forest land. Smaller herds tend to be associated with more forested areas with smaller forest gaps and meadows.

3.1.4.2.1 Direct and Indirect Effects

Alternative 1 (No Action)

Under the no action alternative, no reconstruction and associated activities would occur. Therefore, selection of Alternative 1 would have *no effect* on Roosevelt elk in the analysis area.

Alternative 2 (Proposed Action)

Alternative 2 proposes to construct 700' of new road and reconstruct 1300' of existing road prism. There is a large body of research surrounding the impact of roads on elk. In forested habitats, some potential indirect effects of open roads include fragmentation of habitat and reduction in quality forage due to an increase in invasive plant species. Some potential direct effects of open roads include elk avoidance of open roads, increased mortality due to legal and illegal harvest, increased levels stress and increased movement rates (Rowland et al. 2005). Design criteria would ensure that the introduction of invasive species is limited. The road would be managed for administrative use only and access would be behind a locked gate which would reduce the amount of disturbance to elk. Considering the above information, *Alternative 2 may impact individuals but the effects would not contribute to a trend towards federal listing or cause a loss of viability to the population or the species*

3.1.4.3 Cumulative Effects

The proposed project is expected to have no measureable direct or indirect effects to management indicator species and their habitat, therefore the project would have no cumulative effects.

3.1.5 Landbird Assessment

3.1.5.1 The Migratory Bird Treaty Act of 1918 (MBTA)

Implements various treaties and conventions between the U.S., Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. Under the act, it is unlawful to pursue, hunt, take, capture (or kill) a migratory bird except as permitted by regulation (16 U.S.C. 703-704). The regulations at 50 CFR 21.11 prohibit the take, possession, import, export, transport, sale, purchase, barter, or offering of these activities, or possessing migratory birds, including nests and eggs, except under a valid permit or as permitted in the implementing regulations (Director's Order No. 131). A migratory bird is any species or family of birds that live, reproduce or migrate within or across international borders at some point during their annual life cycle.

The U.S. Fish and Wildlife Service (FWS) is the lead federal agency for managing and conserving migratory birds in the United States; however, under Executive Order (EO) 13186 all other federal agencies are charged with the conservation and protection of migratory birds and the habitats on which they depend. In response to this order, the Forest Service has implemented management guidelines that direct migratory birds to be addressed in the NEPA process when actions have the potential to negatively or positively affect migratory bird species of concern.

3.1.5.2 Executive Order 13186

Executive Order 13186 (66 Fed. Reg. 3853, January 17, 2001) “Responsibilities of Federal Agencies to Protect Migratory Birds” directs federal agencies to avoid or minimize the negative impact of their actions on migratory birds, and to take active steps to protect birds and their habitat. This Executive Order also requires federal agencies to develop Memorandum of Understandings (MOU) with the FWS to conserve birds including taking steps to restore and enhance habitat, prevent or abate pollution affecting birds, and incorporating migratory bird conservation into agency planning processes whenever possible. The BLM and FS have both completed, and are currently implementing, their respective MOU’s with the FWS.

3.1.5.3 Forest Service & FWS Memorandum of Understanding (MOU)

The purpose of this MOU (extended until 12-08-2015) is, “*to strengthen migratory bird conservation by identifying and implementing strategies that promote conservation and avoid or minimize adverse impacts on migratory birds through enhanced collaboration between the Parties, in coordination with State, Tribal, and local governments.*”

Under the MOU the Forest Service Shall:

*Address the conservation of migratory bird habitat and populations when developing, amending, or revising management plans for national forests and grasslands, consistent with NFMA, ESA, and other authorities listed above. When developing the list of species to be considered in the planning process, **consult the current (updated every 5 years) FWS Birds of Conservation Concern, 2008 (BCC)**, State lists, and comprehensive planning efforts for migratory birds. Within the NEPA process, evaluate the effects of agency actions on migratory birds, focusing first on species of management concern along with their priority habitats and key risk factors.*

3.1.5.4 PIF Bird Conservation Regions (BCR’S)

Bird Conservation Regions (BCRs) are ecologically distinct regions in North America with similar bird communities, habitats, and resource management issues. BCR’s are a hierarchical framework of nested ecological units delineated by the Commission for Environmental Cooperation (CEC). The CEC framework comprises a hierarchy of 4 levels of eco-regions. At each spatial level, spatial resolution increases and eco-regions encompass areas that are progressively more similar in their biotic (e.g., plant and wildlife) and abiotic (e.g., soils, drainage patterns, temperature, and annual precipitation) characteristics

A mapping team comprised of members from United States, Mexico, and Canada assembled to develop a consistent spatial framework for bird conservation in North America. The team's US members met in to apply the framework to the United States and developed a proposed map of BCRs. The map was presented to and approved by the US North American Bird Conservation Initiative (NABCI) Committee during its November 1999, meeting (Figure 6). The map is a dynamic tool. Its BCR boundaries will change over time as new scientific information becomes available. It is expected that the map will be updated every three years.

The overall goal of these BCR lists are to accurately identify the migratory and resident bird species (beyond those already designated as federally threatened or endangered) that represent our highest conservation priorities. BCR lists are updated every five years by the US Fish and Wildlife Service.

3.1.5.5 The Birds of Conservation Concern 2008- (updated every 5 years)

In December, 2008, the U.S. Fish and Wildlife Service released The Birds of Conservation Concern Report (BCC) which identifies species, subspecies, and populations of migratory and resident birds not already designated as federally threatened or endangered that represent highest conservation priorities and are in need of additional conservation actions.

While the bird species included in BCC 2008 are priorities for conservation action, this list makes no finding with regard to whether they warrant consideration for Endangered Species Act (ESA) listing. The goal is to prevent or remove the need for additional ESA bird listings by implementing proactive management and conservation actions. It is recommended that these lists be consulted in accordance with Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds." In the BLM and FWS MOU, both parties shall: *Work collaboratively to identify and address issues that affect species of concern, such as migratory bird species listed in the Birds of Conservation Concern (BCC) and FWS's Focal Species initiative. (BLM and FWS MOU, 2012, Section VI, page 4).*

This report should also be used to develop research, monitoring, and management initiatives. BCC 2008 is intended to stimulate coordinated and collaborative proactive conservation actions among Federal, State, Tribal, and private partners. The hope is that, by focusing attention on these highest-priority species, this report will promote greater study and protection of the habitats and ecological communities upon which these species depend, thereby contributing to healthy avian populations and communities.

Avian Conservation Planning (Migratory and Resident Birds)- Migratory birds are those that breed in the U.S. and winter south of the border in Central and South America. Many of our well known passerine songbirds, flycatchers, vireos, swallows, thrushes, warblers, and hummingbirds, fall in this category. Most others are included in the resident category. Birds are a vital element of every terrestrial habitat in North America. Conserving habitat for birds will therefore contribute to meeting the needs of other wildlife and entire ecosystems (Partners In Flight Continental Plan). Continent wide declines in population trends for many avian species has developed into an international concern and led to the creation of the North American Bird Conservation Initiative (NABCI). Under this initiative, plans have been developed for the conservation of waterbirds, shorebirds, seabirds and landbirds. The landbird initiative known as Partners-In-Flight (PIF) has developed a series of bird conservation plans for every state. PIF has gained wide recognition as a leader in the landbird conservation arena.

The Oregon and Washington Chapter of PIF was formed in 1992 and has since developed a series of publications aimed at assisting private, state, tribal and federal agencies in managing for landbird populations. The most recent and applicable publications for the two state area have been Conservation Plans for landbirds.

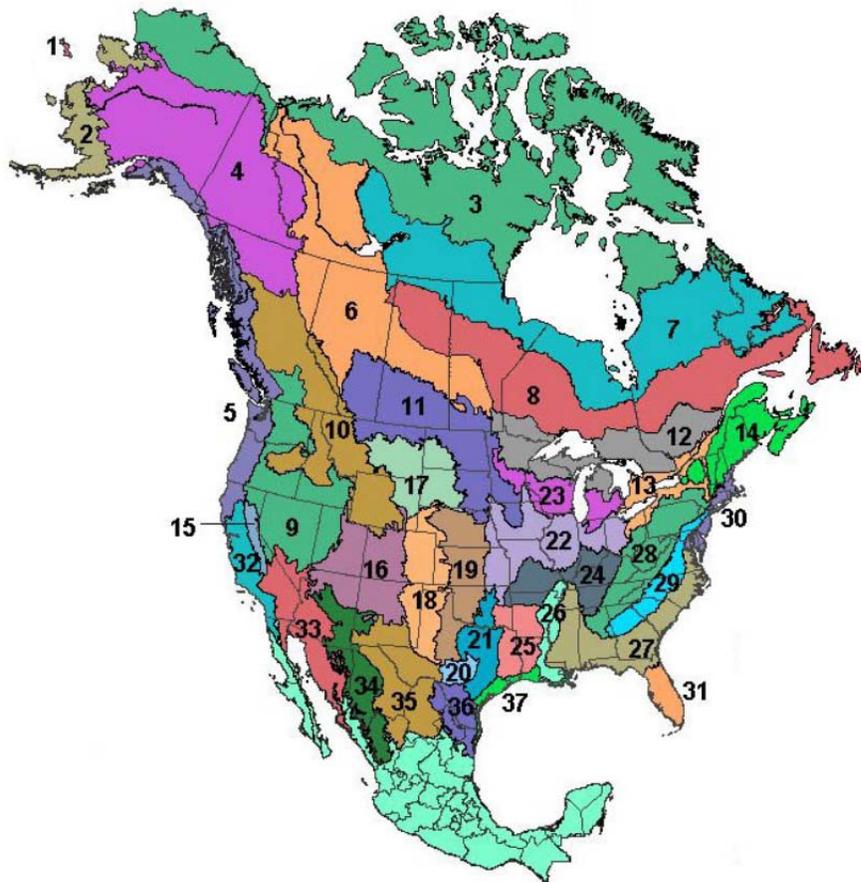


Figure 6. The proposed project is located in Bird Conservation Region (BCR) 5.

Table 4. Migratory and resident bird species (beyond those already designated as federally threatened or endangered) that represent highest conservation priorities for BCR 5 (Northern Pacific Forest U.S. portions only).

Yellow-billed Loon (nb)	Marbled Godwit (nb)
Western Grebe (nb)	Red Knot (<i>roselaari</i> ssp.) (nb)
Laysan Albatross (nb)	Short-billed Dowitcher (nb)
Black-footed Albatross (nb)	Aleutian Tern
Pink-footed Shearwater (nb)	Caspian Tern
Red-faced Cormorant	Arctic Tern
Pelagic Cormorant (<i>pelagicus</i> ssp.)	Marbled Murrelet (c)+
Bald Eagle (b)	Kittlitz's Murrelet (a)
Northern Goshawk (<i>laingi</i> ssp.)	Black Swift
Peregrine Falcon (b)	Rufous Hummingbird
Black Oystercatcher	Allen's Hummingbird
Solitary Sandpiper (nb)	Olive-sided Flycatcher
Lesser Yellowlegs (nb)	Willow Flycatcher (c)
Whimbrel (nb)	Horned Lark (<i>strigata</i> ssp.) (a)
Long-billed Curlew (nb)	Oregon Vesper Sparrow (<i>affinis</i> ssp.)
Hudsonian Godwit (nb)	Purple Finch

(a) ESA candidate, (b) ESA delisted, (c) non-listed subspecies or population of Tor E species, (d) MBTA protection uncertain or lacking, (nb) non-breeding in this BCR

3.1.5.6 PIF Bird Conservation Plans

Five conservation plans have been developed by PIF covering the various geographic regions found in Oregon and Washington. These documents have been prepared to stimulate and support a proactive approach to the conservation of landbirds throughout Oregon and Washington. They represent the collective efforts of multiple agencies and organizations within Oregon and Washington. Participants included biologists from federal and state agencies, industry, private consulting firms, environmental organizations, and academia in order to ensure a full range of ideas and practicalities were addressed by the plans. The plan that is applicable to this project is the Conservation Strategy for Landbirds in Coniferous Forest of Western Oregon and Washington and can be found on the OR-WA PIF web site at www.orwapif.org

Recommendations included in the documents are intended to inform planning efforts and actions of land managers, and stimulate monitoring and research to support landbird conservation. The recommendations are also expected to serve as a foundation for developing detailed conservation strategies at multiple geographic scales to ensure

The overall goal of PIF Bird Conservation Planning is to ensure long-term maintenance of healthy populations of native landbirds. These documents are intended to facilitate that goal by identifying conditions and habitat attributes important to the landbird community, describing the desired landscape based on habitat relationships of a select group of species, providing interim management targets (i.e., biological objectives) to achieve desired conditions, and recommending management actions (i.e., conservation options) that can be implemented by various entities at multiple scales to achieve the biological objectives.

Implementation of parts or all of the strategy should help prevent reactionary approaches typically needed to address listed species issues. When these ecosystem-driven conservation strategies are fully implemented at large geographic scales, the aggregated effect will be the creation of landscapes that should function to conserve landbird communities.

The strategy for achieving functioning ecosystems for landbirds is described through the habitat requirements of "focal species". By managing for a group of species representative of important components in a functioning coniferous forest ecosystem, many other species and elements of biodiversity also will be conserved. E.O. 13186 and the MOUs signed by the FS and BLM with the FWS requires agencies to incorporate migratory bird conservation into agency planning processes whenever practicable. The PIF plans assist federal agencies in achieving this direction.

The Conservation Strategy for Landbirds in Coniferous Forest of Western Oregon and Washington and Birds of Conservation Concern List species list (Table 4) for the project area was reviewed. Those species and habitats that are within the project area are incorporated and effects disclosed in this analysis. Table 7 displays a list of Birds of Conservation Concern (BCC) and conservation focal species that are known or likely to be present in the Planning Area and could be affected by the proposed actions.

Bird Conservations Regions (BCRs) were developed based on similar geographic parameters. One BCR encompasses the project area (BCR 5, Northern Pacific Forest).

Siuslaw National Forest Monitoring Avian Productivity and Survivorship (Maps) Data - In conjunction with the Institute for Bird Populations (the Institute), the Siuslaw NF has participated in the Monitoring Avian Productivity and Survivorship (MAPS) program since 1992. The Institute developed websites and

publications disclosing the species found and the productivity on the forest (Michel et. al. 2006). The habitats landbirds occupy in the planning area range from early seral openings to late-successional old growth. Table 5 represents the species of concern identified in the conservation plans documented at the monitoring stations operated by the Institute.

Based on the MAPS data for the Siuslaw National Forest, Nott et. al. (2005) evaluated adult population trends for 12 species. They concluded that six species were showing measurable changes in the adult population, one neotropical migrant (western flycatcher), and two short-distance migrants (chestnut-backed chickadee and winter wren) were declining. Two neotropical migrants (swainson thrush and Wilson's warbler) and one short-distance migrant (song sparrow) were increasing in populations. Considering the stability of habitat conditions on the forest, Knott (personal communication) has indicated that weather conditions along migration routes and winter grounds in Mexico and Central America currently has a greater influence on population trends for neotropical migrants as the condition on the breeding grounds.

3.1.5.7 Direct and Indirect Effects

Habitats that landbirds could occupy in the project area include forest canopies, ground vegetation/structure, and existing openings. Some landbirds expected in the project area include olive-sided flycatcher, tree swallow, Swainson's thrush, and black-throated gray warbler.

3.1.5.7.1 *Alternative 1 (No Action)*

Under the no action alternative, no reconstruction and associated activities would occur. Therefore, selection of Alternative 1 would have *no effect* on landbirds in the analysis area.

3.1.5.7.2 *Alternative 2 (Proposed Action)*

Alternative 2 proposes to construct 700' of new road and reconstruct 1300' of existing road prism. Project activities are not expected to remove suitable land bird habitat or affect nesting. The project would result in a small overall increase in roads, but is not expected to negatively impact local individuals or populations of land birds. No intentional take of migratory birds would occur associated with this project.

3.1.5.8 Cumulative Effects

Because the proposed project would not measurably affect landbird species or their habitat, there would be no cumulative effects.

3.2 Soils and Hydrology

The project area is located in the Netarts Bay-Frontal Pacific subwatershed (hydrologic unit code 171002030901). The proposed road is located along or near the ridge top between Cape Creek, flowing in the Pacific Ocean, and Jackson Creek a tributary to Netarts Bay. The road location itself contains no streams or other aquatic features. A water diversion for domestic and recreational use is located on the lower reach of Jackson Creek in Cape Lookout State Park (OWRD 2015). Neither stream has been identified by Oregon's Department of Environmental Quality (DEQ) as having water quality concerns (DEQ 2015).

3.2.1 *Direct and Indirect Effects*

3.2.1.1 *Alternative 1 (No Action)*

Given that the road would not be constructed on the National Forest in the No Action alternative, there would be no risk to water quality on the National Forest.

3.2.1.2 Alternative 2 (Proposed Action)

The proposed route on National Forest System land is within an old plantation and side slopes range from 10 to 25%. The first 1,300 feet is on an old rocky road and the remaining 700 feet mostly follow old tractor skid roads. Grades would range from 10 to 15% adverse and the route would follow a broad ridge near the slope break to much steeper ground down the hill. Native soil material is stable and common and no drainages, seepage, or special habitats are evident. The proposed project would not adversely affect soils.

Sediment runoff is the primary water quality concern for forest roads, with most sediment entering streams where roads cross streams, or where roads are close to streams (Elliot 2000). Large increases of disturbed soils in a watershed may also lead to increased sediment production. The total area of new road surface (less than 1.8 acres) is less than one percent of the drainage areas of either Cape Creek (397 acres) or Jackson Creek (1,049 acres). Given this small amount of soil disturbance, ridgetop location, lack of stream crossings, and stable native soils; sediment runoff would likely change little if any from the current conditions.

3.2.2 Cumulative Effects

There would be no cumulative effects to water resources because there would be no measurable direct or indirect effects from the proposed action.

3.3 Fisheries and Aquatic Resources

This analysis considers effects of the 1136 Spur Road Project on the Regional Forester's Special Status Fish Species, including Oregon Coast steelhead and chum salmon. The analysis also evaluates the effects of the project on Threatened species including Oregon coast coho salmon, Southern Distinct Population Segment of green sturgeon, and Pacific eulachon and their designated critical habitat, and essential fish habitat. Coho salmon are also a Management Indicator Species for the Siuslaw National Forest and the effects to it were also evaluated.

3.3.1 Direct and Indirect Effects

3.3.1.1 Alternative 1 (No Action)

The road would not be constructed on National Forest System land, so there would be no impacts to fish habitat on National Forest System land.

3.3.1.2 Alternative 2 (Proposed Action)

This project is located on a ridgetop with no direct stream connection and no habitat for fish species. The project would have no effect on stream temperature, fine sediment into aquatic habitat, or input of large wood into aquatic habitat. Based on information provided from the Hydrologist's review, a site visit, and other information available, the proposed action is expected to have *No Effect* on aquatic species, designated critical habitat, or Essential Fish Habitat. The 1136 Road project would also have *No Effect* on the forest wide viability of Management Indicator Species for the Siuslaw National Forest.

3.3.2 Cumulative Effects

There would be no cumulative effects to fish or aquatic resources because there would be no direct or indirect effects from the proposed action.

3.3.3 Aquatic Conservation Strategy

Objective 1—Maintain and restore the distribution, diversity, and complexity of watershed and landscape-scale features to ensure protection of the aquatic systems to which species, populations, and communities are uniquely adapted.

The distribution, diversity, and complexity of watershed and landscape-scale features would be maintained. The project would not affect aquatic species, there is no aquatic habitat within the project area.

Objective 2—Maintain and restore spatial and temporal connectivity within and between watersheds. Lateral, longitudinal, and drainage network connections include floodplains, wetlands, upslope areas, headwater tributaries, and intact refugia. These network connections must provide chemically and physically unobstructed routes to areas critical for fulfilling life- history requirements of aquatic and riparian-dependent species.

The project would maintain spatial and temporal connectivity of drainage connections within the watershed. Proposed activities would not sever existing connections between essential habitats and among watersheds. The physical nature of existing movement corridors would remain unchanged.

Objective 3—Maintain and restore the physical integrity of the aquatic system, including shorelines, banks, and bottom configurations.

Physical integrity of the aquatic system would be maintained.

Objective 4—Maintain and restore water quality necessary to support healthy riparian, aquatic, and wetland ecosystems. Water quality must remain within the range that maintains the biological, physical, and chemical integrity of the system and benefits survival, growth, reproduction, and migration of individuals composing aquatic and riparian communities.

Project design criteria and Best Management Practices would be implemented to maintain water quality to support riparian, aquatic, wetland ecosystems.

Objective 5—Maintain and restore the sediment regime under which aquatic ecosystems evolved. Elements of the sediment regime include the timing, volume, rate, and character of sediment input, storage, and transport.

The sediment regime would be maintained.

Objective 6—Maintain and restore in-stream flows sufficient to create and sustain riparian, aquatic, and wetland habitats and to retain patterns of sediment, nutrient, and wood routing. The timing, magnitude, duration, and spatial distribution of peak, high, and low flows must be protected.

The project would maintain in-stream flows, and would not affect sediment and nutrient routing. The timing, magnitude, and spatial distribution of flows would not be affected.

Objective 7—Maintain and restore the timing, variability, and duration of floodplain inundation and water table elevation in meadows and wetlands.

The project would maintain the timing, variability, and duration of floodplain inundation.

Objective 8—Maintain and restore the species composition and structural diversity of plant communities in riparian areas and wetlands to provide adequate summer and winter thermal regulation, nutrient filtering, appropriate rates of surface erosion, bank erosion, and channel migration and to supply amounts and distributions of coarse woody debris sufficient to sustain physical complexity and stability.

Riparian and wetland plant species composition and structural diversity would be maintained.

Objective 9—Maintain and restore habitat to support well-distributed populations of native plant, invertebrate, and vertebrate riparian-dependent species.

Habitat necessary to support well-distributed populations of riparian-dependent species would be maintained.

3.4 Botanical Resources

3.4.1 Threatened, Endangered, and Sensitive Species

There are no known occurrences within close proximity of the project area. There are six lichen, four bryophyte, and nine fungi species that have potential habitat in the project area.

A field survey was conducted to determine the presence of sensitive species in the project area October 2 through October 10, 2014. Habitats surveyed include tree boles and branches, down wood, litter, soil, and rock. Presence of the nine sensitive fungi is assumed because habitat for all nine fungi species was confirmed in the project area.

3.4.1.1 Fungi

3.4.1.1.1 Mycorrhizal Fungi

Arcangeliella camphorata is endemic to the Pacific Northwest. It is known from 15 sites in the Siskiyou Mountains, Oregon Coast Range and Olympic Mountains. There are two known sites on the Siuslaw National Forest (NRM TESP 2014). The species is mycorrhizal with conifers, especially Douglas-fir and western hemlock. Threats to the persistence of a population would include activities that remove host trees.

Chamonixia caespitosa is endemic to the Pacific Northwest from 9 widely scattered sites from the coast of northern California to the Olympic Mountains in Washington. Two sites are documented on the Siuslaw National Forest in the vicinity of Cascade Head and Cape Perpetua (Castellano et al. 1999). The species is mycorrhizal. Threats to the persistence of a population would include activities that remove host trees.

Cortinarius barlowensis is endemic to the Pacific Northwest in western Washington and Oregon and along the northern California coast (ISSSSP 2007). Within this area it is known from 10-50 sites. There are no known sites from the Siuslaw National Forest (NRM TESP 2014). The general habitat description is on soil under conifers. Habitat is soil under conifers. As a mycorrhizal species, threats to the species persistence would include activities that remove host trees.

Phaeocollybia californica is endemic to the Pacific Northwest, known from 36 sites in western Washington, western Oregon and northern California. There are four sites known to occur on the Siuslaw National Forest (NRM TESP 2014). This species is mycorrhizal, associated with the roots of Douglas-fir, western hemlock and Pacific silver fir. Threats to the species' persistence would include activities that remove host trees.

Phaeocollybia gregaria is endemic to Oregon, where it is known from 5 sites (Norvell and Exeter 2008). One of these is located on the Siuslaw National Forest in Cascade Head Experimental Forest (NRM TESP 2014). The species is mycorrhizal, associated with the roots of Douglas-fir and Sitka spruce. Threats to the species' persistence would include activities that remove host trees.

Phaeocollybia oregonensis is endemic to the Pacific Northwest, known from 10 to 50 sites in western Washington and Oregon (ISSSSP 2007). There are two known sites on the Siuslaw National Forest (NRM TESP/Invasive 2014). This species is mycorrhizal, associated with the roots of Douglas-fir, western hemlock and Pacific silver fir. Threats to the species' persistence would include activities that remove host trees.

Rhizopogon exiguus is endemic to Oregon and Washington where it is known from five sites, one of which is on the Siuslaw National Forest in the vicinity of Marys Peak (Castellano et al. 1999). An underground-fruited fungus in the truffle group, this species is associated with the roots of Douglas-fir and western hemlock. Threats to its persistence would include activities that remove host trees.

Direct and Indirect Effects

Alternative 1 (No Action)

Under the no action alternative, no reconstruction and associated activities would occur in the project area. Therefore, selection of Alternative 1 would have *no impact* to sensitive mycorrhizal fungi species assumed present in the project area.

Alternative 2 (Proposed Action)

Under the proposed action, trees would be cut within the right of way to permit construction of the road. Any host tree for mycorrhizal fungi that is cut may result in the loss of individuals associated with that tree. Because the area that would be impacted is a small proportion of the available habitat for these species in the adjacent forest stand, this loss would be expected to be small and local. As a result, implementation of Alternative 2 *may impact* individuals or habitat, but would not likely contribute to a trend towards Federal listing or loss of viability for this fungi group.

Cumulative Effects

Future commercial and pre-commercial thinning projects in the vicinity of the project area would impact mycorrhizal fungi over a larger land area with similar local extirpation taking place in the short-term. It is anticipated that the cumulative effect of these activities *may impact* individuals or habitat, but would not likely contribute to a trend towards Federal listing or loss of viability.

3.4.1.1.2 Ramaria rubella var. blanda and Pseudorhizina californica.

Ramaria rubella var. blanda is known from 3 sites in the Pacific Northwest. No sites are known from the Siuslaw National Forest (NRM TESP 2014). Habitat is the down wood of Sitka spruce and red alder. Threats to its persistence would include activities that remove down wood of its preferred species, or precludes the recruitment of these in the future.

Pseudorhizina californica is known from 10 to 50 sites in Oregon and Washington, primarily in the Cascades, with one known site from the Siuslaw National Forest (ISSSSP 2007). The species is a litter and wood saprobe occurring on or adjacent to well-rotted stumps or logs of coniferous trees, and on litter or soil rich in brown rotted wood. Fruiting occurs in June. As either a wood or litter saprobe, *Pseudorhizina californica* may form symbiotic associations with the fine root systems of plants, growing out into the soil matrix, or it may be confined to the available substrate (log, stump, etc.). Threats to the species' persistence would include removing large woody debris or live conifers that it may be associated with.

Direct and Indirect Effects

Alternative 1 (No Action)

Under the no action alternative, no reconstruction and associated activities would occur in the project area. Therefore, selection of Alternative 1 would have *no impact* to these fungi species assumed to be present in the project area.

Alternative 2 (Proposed Action)

Both species require down wood or stumps to persist. Project activities are expected to contribute some amount of down wood from non-merchantable material left on site. Existing down wood and stumps may be moved but would not be removed. As a result, it is anticipated that there should be sufficient down wood to allow for these species to persist in the project area into the future. Selection of Alternative 2 would have *no effect* on *Ramaria rubella* var. *blanda* and *Pseudorhizina californica*.

Cumulative Effects

Future commercial thinning harvest in the project area would likely contribute down wood and stumps required by both species to persist. Therefore, there would be no adverse cumulative effects to the species from these activities.

3.4.1.2 Lichens and Bryophytes

No sensitive lichen or bryophyte species are present in the project area so there would be no direct, indirect, or cumulative effects to these species from either alternative.

Table 5. Biological evaluation summary of effects by species.

SPECIES	Step #1	Step #2	Step #3	Step #4	Step #5
	Potential habitat? ^a	Species present? ^b	Determination of Effects ^c	Analysis of Effects	Biological Investigation
Bryophytes					
<i>Blepharostoma arachnoideum</i>	Yes	No	No Impact	N/A	N/A
<i>Metzgeria violacea</i>	Yes	No	No Impact	N/A	N/A
<i>Schistostega pennata</i>	Yes	No	No Impact	N/A	N/A
<i>Tetraphis geniculata</i>	Yes	No	No Impact	N/A	N/A
Lichens					
<i>Bryoria subcana</i>	Yes	No	No Impact	N/A	N/A
<i>Hypogymnia duplicata</i>	Yes	No	No Impact	N/A	N/A
<i>Hypotrachyna revoluta</i>	Yes	No	No Impact	N/A	N/A
<i>Leptogium cyanescens</i>	Yes	No	No Impact	N/A	N/A
<i>Pseudocyphellaria mallota</i>	Yes	No	No Impact	N/A	N/A
<i>Usnea nidulans</i>	Yes	No	No Impact	N/A	N/A
Fungi					
<i>Arcangeliiella camphorata</i>	Yes	Assumed	MIIH	N/A	N/A
<i>Chamonixia caespitosa</i>	Yes	Assumed	MIIH	N/A	N/A
<i>Cortinarius barlowensis</i>	Yes	Assumed	MIIH	N/A	N/A
<i>Phaeocollybia californica</i>	Yes	Assumed	MIIH	N/A	N/A
<i>Phaeocollybia gregaria</i>	Yes	Assumed	MIIH	N/A	N/A
<i>Phaeocollybia oregonensis</i>	Yes	Assumed	MIIH	N/A	N/A

<i>Pseudorhizina californica</i>	Yes	Assumed	No Impact	N/A	N/A
<i>Ramaria rubella var. blanda</i>	Yes	Assumed	No Impact	N/A	N/A
<i>Rhizopogon exiguous</i>	Yes	Assumed	MIIH	N/A	N/A

^a Potential habitat present within the action area based on occurrence records, review of normal range and preferred habitat.

^b Species detection based on species-specific survey of individuals or habitat.

^c MIIH = May Impact Individuals or Habitat, but would not likely contribute to a trend towards federal listing or cause a loss of viability to the population or species

3.4.2 Survey and Manage Species

The Road 1136 Spur Project follows direction for implementation of the January 2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (USFS et al. 2001) and is based on the district court's remedy order issued on February 18, 2014 (Conservation Northwest v. Bonnie, W.WA No. C08-1067-JCC). This remedy order followed after the 9th Circuit Court of Appeals rejected the 2011 Consent Decree executed in resolution of the district court action (Conservation Northwest, et al v. Harris Sherman, et al and D.R. Johnson Company, 715 F.3d. 1181, C.A. 9 (Wash), April 25, 2013).

The project utilizes the December 2003 species list. This list incorporates species changes and removals made as a result of the 2001, 2002, and 2003 Annual Species Reviews with the exception of the red tree vole, *Arborimus longicaudus*.

Management Category A or C species, which require pre-disturbance surveys if there is potential habitat in the project area that could be disturbed with project implementation, are displayed in Table 6.

Table 6. Survey and Manage Species with potential habitat in the project area.

Species	Taxa Group	Management Category
<i>Hypogymnia duplicata</i>	Lichen	C
<i>Leptogium cyanescens</i>	Lichen	A
<i>Nephroma occultum</i>	Lichen	C
<i>Pseudocyphellaria perpetua</i>	Lichen	A
<i>Pseudocyphellaria rainierensis</i>	Lichen	A
<i>Schistostega pennata</i>	Bryophyte	A
<i>Tetraphis geniculata</i>	Bryophyte	A

3.4.2.1 Survey Results

A field survey to detect the presence of these species in the project area was completed October 10, 2014. No survey and manage species were found.

3.4.2.2 Project Consistency

The project is consistent with the January 2001 Record of Decision and Standards and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (USDA USDI 1994).

3.4.3 Invasive Plants

Two non-native species, foxglove (*Digitalis purpurea*) and a rush (*Juncus effusus*) are present in the project area in small amounts, making the project area relatively free of non-native invasive plants. This can probably be attributed to a more or less continuous forest overstory that impedes shade-intolerant invasive plants from establishing. Additionally, vehicles have not accessed the area for some time, eliminating a vector for seed movement.

3.4.3.1 Invasive Plant Risk Assessment

The following section provides a discussion of noxious weed risk factors, vectors, and a weed risk ranking for the proposed project.

Noxious Weed Risk Factors for Ground-Disturbing Activities:

- A. Known noxious weeds in close proximity to project area that may foreseeably invade project.
- B. Project operation within noxious weed population.
- C. Any of vectors 1-8 in project area.

Noxious Weed Vectors:

- 1. Heavy equipment (implied ground disturbance including compaction or loss of soil “A” horizon.)
- 2. Importing soil/cinders/gravel/straw or hay mulch.
- 3. ORVs or ATVs.
- 4. Grazing.
- 5. Pack animals (short term disturbance).
- 6. Plant restoration.
- 7. Recreationists (hikers, mountain bikers, etc.).
- 8. Forest Service or other project vehicles.

High, moderate, or low risk rankings are possible. For a High Risk ranking, the project must contain a combination of factors A and C or B and C from the lists above. The Moderate Risk ranking requires that a combination of Vectors 1 through 5 be present within the proposed project area. The Low Risk ranking requires that a combination of Vectors 6 through 8 be present within the proposed project area or that there are known noxious weeds within or adjacent to the project area, regardless of the presence of vectors.

Invasive Plant Risk Ranking Results:

Project	Factors	Vectors	Risk Ranking
Road 1136 Spur Project	C	1,2,8	MODERATE

3.4.3.2 Direct and Indirect Effects

3.4.3.2.1 Alternative 1 (No Action)

Under the No Action alternative invasive plant populations would continue to spread at the current rate along roads and other areas of past soil disturbance.

3.4.3.2.2 Alternative 2 (Proposed Action)

Project implementation would require heavy equipment, imported rock and gravel, and project vehicles, all of which could introduce non-native invasive plants into the project area. Soil disturbance resulting from tree harvest and road construction and the opening up of the tree canopy, allowing more light to infiltrate to the ground, would provide suitable conditions for establishment. In addition, log truck traffic from relatively infested private lands through National Forest would be a source of invasive plant material, although traffic would be intermittent for limited periods of time. The road would be open for administrative use only and not open for vehicle traffic by the general public

It is expected that project implementation would result in an increase in invasive plant establishment. Surrounding forest habitat outside the project area may have some resiliency to invasion because of the low light conditions, but this likelihood is dependent on the invasive species present. Shade tolerant plants such as foxglove, already present in small amounts, will establish under a forest canopy if there are areas of exposed soil such as rootwads resulting from blowdown and elk trails. Implementation of best management practices would reduce the risk of introducing and spreading invasive plants as much as possible.

3.4.3.3 Cumulative Effects

Future use of the road by private and Forest Service vehicles and equipment, as well as animal movement along the road, would expose the area to additional sources of invasive plant material that could become established and spread outside the project area.

3.5 Fire and Fuels

Historically, fire return intervals on the Siuslaw National Forest were infrequent (100-200 years) with mixed severity (partial overstory mortality) on the interior zones and infrequent (>200 years) with high severity (stand replacing fire) in the coastal fog zones. Fire return interval combined with fire severity defines a fire regime. The Siuslaw National Forest, including the 1136 project area, is categorized as fire regimes III, IV, V (USDA 2010).

The fire occurrence in the project area is relatively low, but the potential for a high severity damaging wildfire does exist when fuel, weather and topography align to create high fire danger.

Between 2005 and 2014 the Siuslaw National Forest's 10 year fire average is 13.6 fires per year burning an average of 3.7 acres per year. Of these fires only three were reported as non-human caused (lightning) and burned for a total of 0.3 acres. Human caused fire is the most common ignition source contributing to 98% of the fire starts and typically occurs in areas that are easily accessible to humans. Most if not all lightning is accompanied by a significant amount of rainfall, sufficient to reduce the probability of wildfire ignition.

3.5.1 Direct and Indirect Effects

3.5.1.1 Alternative 1 (No Action)

Under Alternative 1, no road reconstruction or construction would occur. No activity fuels (slash) would be generated and no fuel management would take place.

3.5.1.2 Alternative 2 (Proposed Action)

Road construction and reconstruction under Alternative 2 is expected to have the following effects on fuels and the potential results from fire ignitions:

Fuel loading and risk of a fire start would temporarily increase for a period of up to 4 years within the road prism where cutting takes place and activity fuels (slash) are generated. It can be expected that wind velocity would increase within the road cut when winds align with the road. Increased wind speed could increase the rate of spread if a fire were to start. Reduced canopy would increase light reaching the ground which will increase drying of fuels. Dry warm fuels require less heat to initiate combustion. There is potential for a fire to start from construction operations during building of the road. If a fire were to start Forest Service firefighters along with cooperating agencies may be called to respond to the fire.

Reconstruction and construction of the road would increase the ease of access to both Forest Service and private land. The 1136 road is authorized for administrative use so it would not be open to public vehicles. However, opening the road would improve access to the public travelling on foot. 98% of the fires started on the Siuslaw are human caused so improving access to humans may potentially increase the risk of a fire start by a human.

Road construction and reconstruction would improve ease of access for firefighting resources. Motorized vehicles such as patrols, engines, command rigs and even transport vehicles would be able to drive through and respond to fires in the area more easily.

The road would provide a fire break in the event a fire should start in the area. Firefighting personnel can strategically utilize the road to their advantage in several ways including but not limited to: a fuel break to stop the spread of the fire, conduct firing operations, establish an anchor point, and use as an escape route.

Fire could affect other resources. Soils could be damaged by fire if nutrients and organic matter are consumed, increasing the potential for soil erosion due to overland flow. The severity of any damage (e.g., soils, trees, and shrubs) would be directly linked to the intensity of the fire.

3.5.2 Cumulative Effects

The 1136 spur project would give access to Stimson lands. It can be expected that the 1136 road would be used for hauling timber out of the Stimson units. There is potential for increased risk of a fire start within the constructed road prism while the cut trees still have red needles or during dry summer months. Additionally, adjacent landowner may produce slash during harvest operations in the near future which may pose an increased risk of a fire start. A fire starting on land adjacent to the Forest Service would require a response from Forest Service personnel.

3.6 Public and Management Access

3.6.1 Direct and Indirect Effects

3.6.1.1 Alternative 1 (No Action)

Road would not be constructed, resulting in a continued lack of legal access to isolated private lands.

3.6.1.2 Alternative 2 (Proposed Action)

New road construction would disturb 0.25 acres of land and provide access to approximately 300 acres of privately owned land otherwise inaccessible without creating extreme disturbance. In addition, 0.38 miles of road would be added to the National Forest System.

The effects of constructing a short portion of new road and reopening an existing road are relatively minor compared to the disturbance caused by constructing several miles of alternate access over steep terrain and several streams.

3.6.2 Cumulative Effects

There would be no cumulative effects to public or management access because there are no measurable direct or indirect effects.

3.7 Heritage Resources

Background research for cultural resources was conducted for the project, including a thorough review of relevant historic records, reference literature, and cultural resource files on the Siuslaw National Forest. The research was used to delineate areas within the project area that were determined to most likely to contain cultural resources. Following the delineation of “high probability areas” for cultural resources, the Forest Archaeologist reviewed the list of proposed actions and assessed their potential to affect historic properties according to the terms of the *2004 Programmatic Agreement between the USDA Forest Service, Pacific Northwest Region (Region 6), the Advisory Council on Historic Preservation, and the Oregon State Historical Preservation Officer (PA)*.

It was determined that the reconstruction of approximately 1,300 feet of existing old spur road and rock roadbed has little or no potential to affect historic properties because activities would occur in previously disturbed areas. This activity is covered under Appendices A and C of the PA and does not require field survey.

The other proposed action includes new construction of approximately 700 feet of permanent roadway that would extend from the existing road surface to be re-opened. The proposed new road construction is located in areas considered “low probability” for cultural resources based on historic background information and topographic setting. No historic or prehistoric resources were identified in the project vicinity.

3.7.1 Direct and Indirect Effects

3.7.1.1 Alternative 1 (No Action)

If the no action alternative is implemented, there would be no direct effect on the existing conditions of cultural resources that are currently unidentified within the project area.

3.7.1.2 Alternative 2 (Proposed Action)

Road construction and road reconstruction would result in more ground disturbance than Alternative 1, increasing the risk of inadvertent damage to cultural. However, appropriate surveys and cultural site protection measures are already in place for this project (see Design Criteria, Appendix A); the potential direct effects would be in the form of inadvertent damage to the integrity of cultural resources which were not discovered during initial survey. Any sites uncovered during implementation of the project would require the application of Design Criteria described in Appendix A, so minimal effects to cultural resources would be expected.

3.7.2 Cumulative Effects

Neither of the alternatives would result in direct or indirect effects to known heritage resources. Consequently, no cumulative effects are anticipated.

3.8 Scenery

The project area falls within the scenic corridor of Cape Lookout Road/Whiskey Creek Road, which is designated as “Management Area 14, Scenic Viewshed” (USDA 1990). The project area has a scenic

quality objective of partial retention as seen from level one viewpoints – including Netarts Bay, Cape Lookout State Park, and Three Capes Road - of and within the project area. The goal for scenery is to restore, maintain, and enhance natural vegetation patterns, as much as possible.

Private forest land adjacent to the proposed project area has no “scenic integrity,” as defined by the “Scenery Management System.” There is high contrast and a highly modified appearance to adjacent private forest land, and natural pattern, form, line are disrupted across the view, which this proposed road would access. There is a line of contrast where cleared private forest land and the National Forest meet, adjacent to the proposed road. From Cape Lookout State Park to the west and from Cape Lookout Road to the west and south the view north and east towards the project area is natural appearing, and has high scenic integrity.

The proposed road construction may be visible from some points viewing from the north, but would have a relatively small scale in the landscape, and would be screened by intervening topography from many views.

3.9 Environmental Justice

Executive Order 12898 directs federal agencies to identify and address the problem of adverse environmental effects by agency programs on minority and low income populations. A lower percentage of individuals and families are below poverty level in the communities immediately surrounding the project area when compared to Tillamook County overall, or statewide figures, although the rural nature of the project area makes it difficult to accurately assess socioeconomic characteristics (Headwaters Economics 2015).

Census data and US Department of Labor statistics indicate that median household incomes in Tillamook County are above the national poverty guideline (Headwaters Economics 2015). Approximately 95% of the population in areas surrounding the project area self-identify as white, with the remaining identifying as Asian alone (~1 %) and some other race alone (~4%) (Headwaters Economics 2015). Approximately 10% of population self identifies as Hispanic or Latino (Headwaters Economics 2015).

Effects of alternatives on the human environment are expected to be similar for all human populations regardless of nationality, gender, race, or income. No disproportionately high and adverse human health or environmental effects on minority populations and low-income populations are expected as a result of implementing any alternative. Based on local knowledge, small pockets of low-income populations live in the vicinity of the project area and some augment incomes through actions such as gathering firewood and other forest products to sell. Some farms exist in the planning area, and domestic-use water systems include individual wells and spring-fed systems. The proposed action is not expected to affect farms or water quality of municipal or domestic-use water systems.

3.10 Climate Change

A growing body of scientific evidence and climate modeling indicate that climate change is occurring. While there are no specific projections for the project area, it can generally be expected that summers would be drier and winter rains may be more intense (Bare et al. 2005, Mote 2003, Mote et al. 2005, Dale et al. 2001).

The proposed action was not specifically designed to mitigate or respond to potential climate change and this analysis does not attempt to *quantify* carbon emission or sequestration or to assert that one alternative would emit or sequester more than another. Instead, this analysis addresses aspects of the proposed action

that may affect carbon emission or sequestration and how the proposed project may help or hinder the forest's ability to deal with climate change.

The Intergovernmental Panel on Climate Change (IPCC) summarized the contributions of global human activity sectors on climate change (IPCC 2007). The top three human-caused contributors to greenhouse gas emissions (from 1970 to 2004) are fossil fuel combustion (56.6% of global total), deforestation (17.3%), and agriculture/waste/energy (14.3%) (IPCC 2007). The IPCC analysis of "deforestation" focuses on land use conversions and large scale deforestation (removal of all trees) as the primary forestry-related issues (e.g., conversion of rainforest into agricultural land; conversion of forest into developed land). The proposed action does not fall within these main contributors of greenhouse gas emissions; it does not involve land use conversion or large scale deforestation. The adjacent private land parcel is already managed as industrial forestland. Given the IPCC findings and the relatively small-scale and limited impacts the Project would have on the forest, the incremental contribution to greenhouse gases and climate change would be immeasurable.

The proposed action is not likely to have direct localized effects on climate. By its very nature, the discussion of a project's effect on climate change is indirect and cumulative because the effects occur at a different time and place, and because the scale of the discussion is global. Since it is not reasonable to measure a project's global impact, the discussion here focuses on key elements of forest management discussed in the scientific literature. For this proposal, the following actions have the potential to affect carbon emissions or sequestration:

Under the proposed action, fossil fuel would be used by equipment during road construction activities. The no-action alternative would not use fuel.

Small quantities of debris would be burned, releasing carbon into the atmosphere. Burning would be minimal because most tree tops and branches of harvested trees would be left scattered in the forest. In moist forests, leaving this debris in the forest would not result in a high fire hazard situation; thus, these areas would not be burned. The no-action alternative would not implement any burning.

Utilizing harvested trees to create long-lived wood products would sequester carbon. The no-action alternative would not create any long-lived wood products (IPCC 2007; FAO 2007; Stavins and Richards, 2005; Upton, et al. 2007).

To summarize, the alternatives would result in some carbon emissions and some carbon sequestration.

3.11 Additional Disclosures

- This environmental assessment is tiered to the Siuslaw Forest Plan FEIS, as amended by the Northwest Forest Plan, and is consistent with those plans and their requirements.
- None of the alternatives would affect minority groups, women, and consumers differently than other groups. These groups may benefit from employment opportunities and by-products that proposed actions would provide; the no-action alternative would have neither adverse nor beneficial effects. None of the alternatives adversely affects civil rights. All contracts that may be awarded as a result of implementation would meet equal employment opportunity requirements.
- None of the proposed actions would affect known prehistoric or historic sites because no new disturbance on previously undisturbed ground is expected. As outlined in the American Indian Religious Freedom Act, no effects are anticipated on American Indian social, economic, subsistence rights, or sacred sites.

- No adverse effects on wetlands and flood plains are anticipated.
- There is no prime farmland, park land, or range land within the project area and no impact to these areas is expected.
- The project is not within any congressionally designated area and would not affect any designated wild and scenic rivers.
- The proposed project would not affect any inventoried roadless area (IRA).
- None of the proposed actions are expected to substantially affect human health and safety.
- This project is expected to be consistent with the Clean Air Act and Clean Water Act because of the design criteria to be applied (Appendix A).
- The proposed project is consistent with the Coastal Zone Management Act because federal lands are excluded from the coastal zone.
- These actions do not set a precedent for future actions because they are similar to actions implemented in the past.

4 Agencies and Persons Consulted

The Forest Service consulted the following individuals, Federal, State, tribal, and local agencies during the development of this EA:

4.1 Public Scoping

The Hebo Ranger District mailed letters describing the proposed project to about 32 individuals and organizations on September 24, 2014. The scoping letters requested comments on the proposed project by October 27, 2014. The proposal was first listed in the 7/01/2014 to 9/30/2014 Schedule of Proposed Actions for Siuslaw National Forest. The District received one comment regarding the proposed project.

4.2 Tribal Consultation

The Confederated Tribes of Siletz Indians (CTSI) and the Confederated Tribes of Grande Ronde (CTGR) were notified of the project prior to public scoping and again during the public scoping process. Neither tribe expressed concerns with the proposed action.

4.3 Federal Agencies

National Marine Fisheries Service (NMFS) – NMFS was notified of the project during scoping, no comments were received. The project has been designed to have no effect on Oregon coast coho salmon (listed as threatened under the Endangered Species Act) or its critical habitat. The project would not adversely affect Essential Fish Habitat for coho and chinook salmon, as designated by the Magnuson-Stevens Fishery Conservation and Management Act.

US Fish and Wildlife Service (FWS) – USFWS was notified of the project during planning and analysis. Consultation with FWS for this project is completed, and the FWS concluded that this project would not jeopardize the continued existence of the northern spotted owl or marbled murrelet (USFWS 2014).

Bureau of Land Management (BLM) - The BLM was notified of the project during scoping, no comments were received.

4.3.1.1 State of Oregon

All proposed actions were evaluated under the 2004 programmatic agreement with the State Historic Preservation Office (USFS 2005c). No further consultation with SHPO was needed.

Oregon Department of Forestry, Oregon Coastal Zone Management Program, Oregon Department of Fish and Wildlife, Oregon Department of Agriculture, Oregon Department of Transportation, Oregon State Police Fish and Wildlife Division, and Oregon Parks and Recreation were notified about the proposed project. No comments were received from them.

4.3.1.2 Local Governments

Tillamook County and other local government representatives were notified of the proposed project during scoping.

4.3.1.3 Watershed Councils

The Nestucca, Neskowin, and Sand Lake Watersheds Council were contacted during scoping to notify them of the proposed project.

4.4 List of Preparers

Interdisciplinary Team (IDT) Members	Specialty
Debra Hobbs	Project Lead/Recreation and Special Uses
Lorena Wisheart	NEPA
Michelle Drago	Wildlife
Marty Stein	Botany
Ron Hudson	Hydrology
Doug Shank	Geology
Adriana Morales	Fisheries
Chris Waverek	Fire/Fuels
Rob Sanders	Transportation Systems
Jessie Dole	Scenery
Kevin Bruce	Heritage

5 References

- Applegarth, J. S. 1995. Invertebrates of special status or special concern in the Eugene district. U.S. Department of the Interior, Bureau of Land Management. 126 pp.
- Bare, B.B., R. Gustafson, P. Mote, L. Brubaker and J. Perez-Garcia. 2005. Effect of global climate change on northwest forests. University of Washington. Denman Forestry Issues video series. Available online at: <http://www.youtube.com/watch?v=QJSt2y93xes>.
- Castellano, M; J. Smith, T. O'Dell, E. Cázares, S. Nugent. 1999. Handbook to strategy 1 fungal species in the Northwest Forest Plan. General Technical Report PNW-GTR-476. Porland, OR. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 195 p.
- Dale, V.H., L.A. Joyce, S. McNulty, R.P. Neilson, M.P. Ayres, M.D. Flannigan, P.J. Hanson, L.C. Irland, A.E. Lugo, C.J. Peterson, D. Simberloff, F.J. Swanson, B.J. Stocks and M. Wotton. 2001. "Climate change and forest disturbances." *BioScience* 51: 723-734.
- Elliot, J. W. 2000. Roads and Corridors. In: Dissmeyer, G.E. (Editor). 2000. Forest and Grasslands: A Synthesis of Scientific Literature. General Technical Report SRS-39, Ashville, North Carolina: USDA Forest Service, Southern Research Station.
- Food and Agriculture Organization of the United Nations (FAO). 2007. *Roles of forests in climate change*. Available at <http://www.fao.org/forestry/site/climatechange/en/>.
- Headwaters Economics. 2015. Economic Profile System-Human Dimensions Toolkit. Available at: <http://headwaterseconomics.org/tools/eps-hdt>.
- Intergovernmental Panel on Climate Change (IPCC). 2007. Working Group III Report "Mitigation of Climate Change" Chapter 9. In *Climate change 2007: the IPCC Fourth Assessment report*. Cambridge, UK: Cambridge University Press.
- Inter-agency Special Status Sensitive Species Program (ISSSSP). 2007. Conservation Assessment for Fungi Included in Forest Service Regions 5 and 6 Sensitive and BLM California, Oregon and Washington Special Status Species Programs, Appendix 1. Available online at: <http://www.fs.fed.us/r6/sfpnw/issssp/>
- LaBonte, J.R. 1993. Roth's Blind Beetle (*Pterostichus rothi* Hatch: Coleoptera: Carabidae): Habitat, Survey, Threatened and Endangered Status. A Challenge Cost-Share Project funded through the Bureau of Land management and the Nature Conservancy's Oregon Natural Heritage Program. 49 pages.
- Mote, P.W. 2003. "Trends in snow water equivalent in the Pacific Northwest and their climatic causes." *Geophysical Research Letters* 30: 1601.
- Mote, P.W., A.F. Hamlet, M. Clark, and D.P. Lettenmaier. 2005. "Declining mountain snowpack in western North America." *Bulletin of the American Meteorological Society* 86: 39-49.
- Norvell, L. and R. Exeter. 2008. Phaeocollybia of the Pacific Northwest North America. USDI BLM/OR/WA/gi-08/100-1792. Salem, OR.
- NRM TESP 2014. Natural Resources Information System. Ad hoc query of the TESP/Invasive database.

- Nott, M. P., D. F. Desante, P. Pyle, and N. Michel. 2005. Managing Landbird populations in Forests of the Pacific Northwest Region Publication No. 254 of The Institute for Bird Populations. http://www.birdpop.org/usfsr6/usfspnwr6_publications.htm Oregon Water Resources Department (OWRD). 2015. Oregon Water Resources Department Water Rights Mapping Tool. Website found at: <http://apps.wrd.state.or.us/apps/gis/wr/Default.aspx>
- Oregon Department of Environmental Quality (DEQ). 2015. Oregon's 2012 Draft Integrated Report Database. Website found at: <http://www.deq.state.or.us/wq/assessment/rpt2012/search.asp>
- Rowland, M.M., M.J. Wisdom, B.K. Johnson, and M.A. Penninger. 2005. Effects of roads on elk: implications for management in forested ecosystems. Pages 42-52. IN: Wisdom, M.J., technical editor, *The Starkey Project: a Synthesis of Long-term Studies of Elk and Mule Deer*. Reprinted from the 2004 Transactions of the North American Wildlife and Natural Resources Conference, Alliance Communications Group, Lawrence, KS.
- Stavins, R.N. and K.R. Richards. 2005. *The cost of U.S. forest-based carbon sequestration*. Prepared for the Pew Center on Global Climate Change. January 2005.
- United States Department of Agriculture, Forest Service. 1990a. *Siuslaw National Forest. Land and Resource Management Plan ("Forest Plan")*. Available online at: <http://www.fs.usda.gov/main/siuslaw/landmanagement/planning>.
- United States Department of Agriculture, Forest Service. 1990b. *Siuslaw National Forest. Final Environmental Impact Statement, Forest Plan*.
- United States Department of Agriculture, Forest Service. 1990c. *Siuslaw National Forest. Final Environmental Impact Statement, Record of Decision, Forest Plan*. 35p.
- United States Department of Agriculture, Forest Service. 1995. Establishment Record for Sand Lake Research Natural Area. 26 pp. plus maps and appendices.
- United States Department of Agriculture, Forest Service. 1998. Sand Lake Watershed Analysis. 96 pp. plus maps and appendices.
- United States Department of Agriculture, Forest Service. 2005. Pacific Northwest Region Invasive Plant Program, Preventing and Managing Invasive Plants, Final Environmental Impact Statement and Record of Decision. Available at <http://www.fs.usda.gov/detail/r6/forest-grasslandhealth/invasivespecies/?cid=stelprdb5302157>.
- United States Department of Agriculture, Forest Service. 2010. Northwest Oregon Fire Management Plan: 3.1A. Fire Management Considerations Applicable to Siuslaw National Forest Fire Management Unit. 14pp.
- United States Department of Agriculture, Forest Service, United States Department of the Interior, Bureau of Land Management. 1994. *Final Supplemental Environmental Impact Statement and Record of Decision for Amendments to Forest Service and Bureau of Land Management Documents within the Range of the northern Spotted Owl and Standards and guidelines for Management of Habitat for Late Successional and Old Growth Forest Related Species within the Range of the Northern Spotted owl*.
- United States Department of Agriculture, Forest Service, United States Department of the Interior, Bureau of Land Management. 1995. *Assessment Report: Federal Lands in and Adjacent to the Oregon*

- Coast Province*. Corvallis, OR: USDA Forest Service, Siuslaw National Forest. 112 p. plus maps and appendices.
- United States Department of Agriculture, Forest Service, United States Department of the Interior, Bureau of Land Management. 1997. *North Coast Range Adaptive Management Area Guide*. Siuslaw National Forest, Corvallis, OR. 88 p.
- United States Department of Agriculture, Forest Service, United States Department of the Interior, Bureau of Land Management. 1998. *Late-successional Reserve Assessment for Oregon's Northern Coast Range Adaptive Management Area*. Siuslaw National Forest, Corvallis, OR.
- United States Department of Agriculture, Forest Service, United States Department of the Interior, Bureau of Land Management. 2001. Final Supplemental Environmental Impact Statement For Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines. Portland, OR.
- United States Department of the Interior, Fish and Wildlife Service. 1990. *Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Northern Spotted Owl*. 55 Fed. Reg. 26114.
- United States Department of the Interior, Fish and Wildlife Service. 2014. Letter of Concurrence Regarding the Effects of Habitat Modification Activities within the North Coast Province, FY 2015 and 2016, proposed by the Eugene District, Bureau of Land Management; Salem District, Bureau of Land Management; and the Siuslaw National Forest; on the Northern Spotted Owl (*Strix occidentalis caurina*), Marbled Murrelet (*Brachyramphus marmoratus*), and their Critical Habitats (FWS Reference Number 01EOW00-2014-I-0234) Portland, OR.
- Upton, B.R., R. Miner, M. Spinney and L.S. Heath. 2007. "The greenhouse gas and energy impacts of using wood instead of alternatives in residential construction in the United States." *Biomass and Bioenergy* (32):1-10.

Appendix A – Project Design Criteria

Design criteria for actions identified in the 1136 EA (EA) were developed to ensure the project is consistent with management guidelines and project objectives. The following design criteria and mitigation measures have been included to ensure consistency with standards and guidelines of the 1990 Siuslaw Forest Land and Resource Management Plan (SLRMP), as amended by the 1994 Northwest Forest Plan (NFP), consultation documents for federally listed species or designated critical habitat, and the Late-Successional Reserve Assessment (LSRA) for Oregon's Northern Coast Range Adaptive Management Area (USDA USDI 1998), among other documents.

Appropriate specialists would be consulted before any design criteria or mitigation measures for proposed activities are changed. Forest Service direction, regulations, and standards and guides for resource protection may change over time. If changes occur prior to completion of any project actions, then the actions should be modified to reflect mandatory changes. The following design criteria and mitigation measures have been incorporated into the design of the proposed project and would be employed during project implementation.

Botany

- All heavy equipment (excluding passenger vehicles) shall be clean and free of soil, vegetative matter, or other debris that may contain or hold weed seeds prior to entering National Forest System lands (WO-B/BT 6.36).
- Inspect off-road equipment prior to start of work to ensure it is free of all soil, seeds, vegetative matter and other debris that could hold or contain seeds (WO-BT6.36).
- Inspect material sources (e.g., rock or soil borrow sites) on site and ensure that they are weed-free before use and transport. Treat weed-infested sources for eradication and strip and stockpile contaminated material before any use of pit material.
- Erosion control materials (seed, straw, hay) must be free of weed seed and plant parts.
- Slash from road construction and harvest operations should not be piled or scattered within 10 feet of the road where such actions would hinder weed treatment.
- Monitoring for non-native plants should be conducted following completion of road reconstruction until hauling is completed. Any non-native plants found should be manually or mechanically removed. At a minimum, treatment should occur twice during the growing season from May to September.

Water Quality

- Follow Siuslaw Plan standards and guidelines (FW-114 through FW-118) to meet water-quality standards outlined in the Clean Water Act for protecting Oregon waters, and apply practices as described in General Water Quality Best Management Practices, Pacific Northwest Region, November 1988. Design criteria, including these practices, are incorporated throughout the project, such as in project location, design, contract language, implementation, and monitoring. The State has agreed that compliance with these practices will ensure compliance with State Water Quality Standards (Forest Service Manual 1561.5, R-6 Supplement 1500-90-12).
- If the total oil or oil products storage at a work site exceeds 1,320 gallons in containers of 55 gallons or greater the purchaser shall prepare and implement a Spill Prevention Control and

Countermeasures (SPCC) Plan. The SPCC plan will meet applicable EPA requirements (40 CFR 112), including certification by a registered professional engineer. (SLRMP: FW-119, 120, 122).

Fish

- Road construction would utilize best management practices to minimize the transport of fine sediment or potential contaminants from the road area.
- Designate and use staging areas to store hazardous materials, fuel, service heavy equipment vehicles, and other power equipment with tanks larger than 5 gallons, that are at least 150 feet from any natural water body or wetland, or on an established paved area, such that sediment and other contaminants from the staging area cannot be deposited in the floodplain or stream.
- Inspect all equipment, vehicles, and power tools for fluid leaks before they leave the staging area.
- Before operation within 150 feet of any waterbody, and as often as necessary during operation, thoroughly clean all equipment, vehicles, and power tools to keep them free of external fluids and grease and to prevent leaks and spills from entering the water.

Fire and Fuels

- **Slash definition:** Slash is defined as vegetative debris including but not limited to, cull logs, blasted or pushed-out stumps, chunks, broken tops, limbs, branches, rotten wood, damaged brush, damaged or destroyed reproduction, saplings or poles resulting from road construction operations.
- Any prescribed burning will require an approved burn plan that meets the parameters identified in FSM 5150.
- Slash shall be disposed of by machine piling or scattering, as described below:
 - Machine Piling* - Slash less than 10 feet long shall be placed in a compact, dirt free, uniform pile for later disposal by the Forest Service. The pieces shall be placed so that shifting or rolling will not occur. Piles shall be no higher than 15 feet.
 - Scattering* – Slash shall be scattered across skid trails, yarding corridors, or other openings in the immediate area. Scattering shall be accomplished in a manner to avoid windrows and shall not exceed a depth of 1 foot from natural forest floor or road/landing surface.
- Piles as defined in Method a above, shall be located in the center of openings near or on the landings and as far as possible away from residual trees. Unless otherwise agreed, the base of the piles shall be no closer than 10 feet from standing trees. Excess slash which cannot be piled as per these specifications, will be required to be hauled to a disposal site as designated by the Forest Service.
- All activity fuel (slash) created during construction and reconstruction of the 1136 spur more than 2 feet long and less than 3 inches in diameter shall be scattered when in concentrations exceeding 1 foot depth above the natural forest floor and 25 square feet in surface area. Material which is at least 3 inches in diameter on the small end must be limbed and bucked at 3 inches in diameter with the resulting slash meeting the above specification requiring scattering.

Heritage Resources

- Should archaeological resources be discovered as a result of any project activities, earth-disturbing activities must be suspended in the vicinity of the find, in accordance with federal regulations (NHPA and 36 CFR 800). The Forest Archaeologist must be notified to evaluate the discovery and recommend a subsequent course of action.
- Changes to current project design and/or addition of new project activities, will require consultation with the Forest Archaeologist in order to protect known and unknown resources.

Wildlife

- Compliance with the US Forest Service goal of supporting recovery of threatened or endangered species (FSM 2602;) requires that a wildlife biologist participates in the planning and design of all projects that potentially affect listed species to assure actions are consistent with current consultation. A wildlife biologist will help design actions to make effects determinations to threatened or endangered species that are consistent with consultation, and to minimize potential adverse effects to other species.
- Design Criteria must include the most current requirements from the US Fish and Wildlife Service (FWS) for federally listed wildlife. For northern spotted owl and marbled murrelet, these requirement are described in a biological opinion (BO) or corresponding letter of concurrence (LOC) All action alternatives incorporate the design criteria and monitoring requirements disclosed in this Appendix as well as the design criteria associated with the programmatic consultations for habitat modification and disturbance for fiscal years 2015-2016 (LOC 01E0FW00-2014-I-0234) and aquatic restoration (ARBO II 2013) for fiscal years 2013-2017 (LOC 01E0FWOO-2013-F-0090).
- Any red tree vole site discovered incidentally during the project should be protected from damage and immediately disclosed to the District wildlife biologist to determine management requirements.
- A portion of felled trees should be retained on site but outside of the road prism where possible to provide for down wood prey habitat.