



***Final* Vegetation Survey Report**
Marys Peak
Bonneville Power Administration
Communications Site Project

April 9, 2018

**Prepared by: United State Department of Agriculture,
Forest Service Region 6 Restoration Services Team**

Prepared for: Bonneville Power Administration

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Introduction

The Bonneville Power Administration (BPA) needs to maintain and upgrade the existing BPA communications site located at Marys Peak, approximately 15 miles southwest of Corvallis, in Benton County, Oregon. Some communications equipment at the site is outdated and unstable and needs to be replaced. The site needs a more reliable back-up power source due to potential power outages.

These proposed actions are part of the Marys Peak BPA Communications Site Project (Project). The Project has six action alternatives in addition to the No Action alternative. Each alternative has two geographic components. An unobstructed microwave path is needed between two communications sites in two different locations in order for voice and other data to be transmitted in either direction between them.

BPA contracted with the US Forest Service Region 6 Restoration Services Team (RST) to provide vegetation services for the Project. During 2017, only the Project area associated with the Marys Peak component of Alternative 2 and Alternative 3 was developed enough to define a vegetation survey area. RST performed field surveys and documented vegetation within the Marys Peak vegetation survey area in support of the environmental review of the Project. The results of that survey are the subject of this report. The remaining components of project alternatives were not surveyed for vegetation in 2017 and will be surveyed in 2018 (See Table 1). The 2018 vegetation survey will be documented in a separate vegetation report.

Table 1. Portions of Project Alternatives Not Surveyed for Vegetation in 2017

Alternative #	Alternative Name	Portions of Alternative NOT Surveyed in 2017; To Be Surveyed in 2018
1	No Action (the communications site would not be maintained or upgraded)	No survey needed
2 - Option A	Marys Peak at Existing BPA Site – BPA Albany Substation	BPA Albany Substation
2 - Option B	Marys Peak at Existing BPA Site – BPA Prospect Hill Site	BPA Prospect Hill Site
3 - Option A	Marys Peak Colocate at New USFS Site – BPA Albany Substation	BPA Albany Substation
3 - Option B	Marys Peak Colocate at Proposed New USFS Site – BPA Prospect Hill Site	BPA Prospect Hill Site
4	West Point Spur Colocate at Existing Consumer’s Power, Inc. (CPI) Site – BPA Prospect Hill Site	West Point Spur Existing CPI Site and BPA Prospect Hill Site
5	West Point Spur Proposed New BPA Communications Site – BPA Prospect Hill Site	West Point Spur New BPA Communications Site and BPA Prospect Hill Site

This report documents existing vegetation resource conditions in the Marys Peak component of the Project and analyzes potential environmental impacts of the Project on plant communities and special-status plant species, including Siuslaw National Forest and BLM Sensitive and strategic plant species and their habitats, and noxious weeds. This report also includes recommendations for measures (in addition to Project best management practices [BMPs]) to avoid, minimize, or mitigate for potential impacts to vegetation.

Objectives for the Project vegetation surveys addressed in this report are to:

- (1) document, map, and assess the condition of the various plant communities;
- (2) survey for and document special-status plant species occurrences and habitat;
- (3) survey for and document noxious weed species;
- (4) describe plant communities and assess their ecological condition

Project Location

The existing BPA communications site is on the summit of Marys Peak, located approximately 15 miles southwest of Corvallis, in Benton County, Oregon off of Oregon Highway 34 (Figure 1). Because this report only covers the Project area associated with the Marys Peak component of Alternatives 2 and 3, the Marys Peak communications site, the access road leading to the communications site from the parking lot, and an approximate 1-acre stand of noble firs on BLM-administered lands are defined as the Project area in this report.

The BPA communications site is located on lands managed by the United States Department of Agriculture, Forest Service (USFS), Central Coast Ranger District of the Siuslaw National Forest. The site is located within the Marys Peak Scenic Botanical Area, which is managed by the USFS under the terms of the Siuslaw National Forest Land and Resource Management Plan (USDA 1990) as amended by the Northwest Forest Plan (USDA USDI 1994). Accordingly, BPA is currently coordinating with the USFS concerning its project. BPA is also coordinating with the Bureau of Land Management (BLM) Northwest Oregon District because some project activities could occur on lands administered by the BLM.

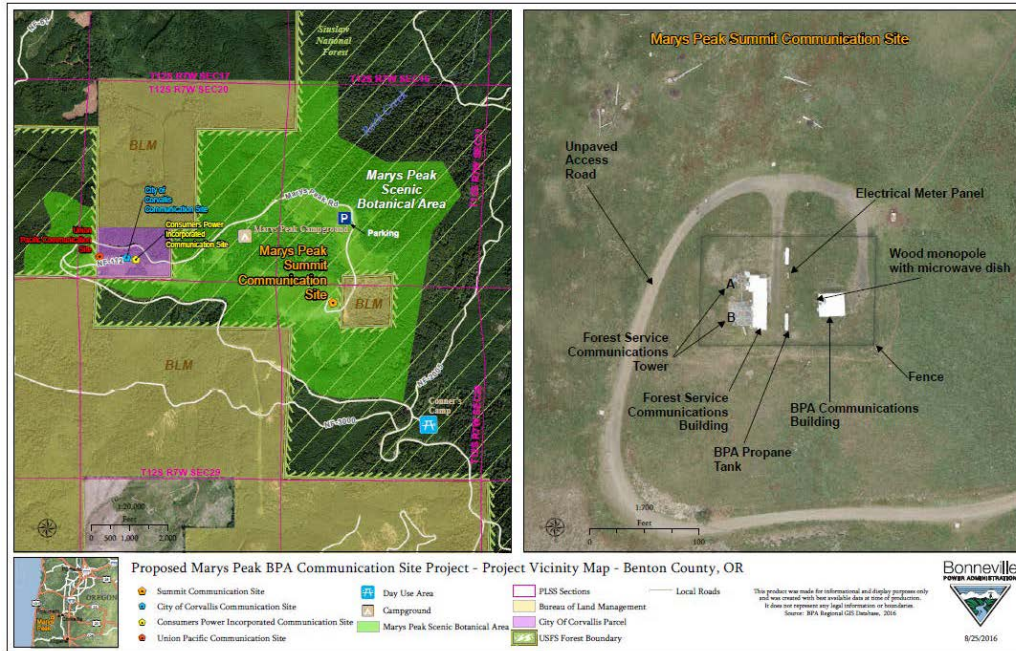


Figure 1. Vicinity map of proposed Marys Peak BPA Communications Site Project area (figure courtesy of Bonneville Power Administration).

Project Description

During 2017, only portions of four of the six action alternatives were developed enough to define the vegetation survey area. The Marys Peak component of the following alternatives, were surveyed in 2017:

- Alternative 2A: Marys Peak at Existing BPA Site – BPA Albany Substation Site
- Alternative 2B: Marys Peak at Existing BPA Site – BPA Prospect Hill Site
- Alternative 3A: Marys Peak Colocate at New USFS Building – BPA Albany Substation Site
- Alternative 3B: Marys Peak Colocate at New USFS Building – BPA Prospect Hill Site

The BPA communications site is accessed via an unpaved road from the south side of the paved parking lot. The road is approximately six tenths of a mile long and dead ends at the communications site. The BPA communications site is within a chain link fence that also encloses the USFS communications site. The BPA facilities within the chain link fence include the BPA communications building, a wood monopole with a microwave dish attached near the top of the wood pole, and an external propane tank. The entire area enclosed by the chain link fence is slightly larger than one third of an acre.

Activities associated with improvements to BPA facilities at Marys Peak (Alternative 2) would result in direct impacts to vegetation. Impacts would result from equipment removal and replacement inside the BPA communications building, improvement to the building’s exterior, propane tank maintenance, construction of a new steel-lattice structure for a new microwave dish, trenching, and directional boring. The existing unpaved access road could need improvement, and staging areas could be needed along the road and/or within the communications site chain link fence. Additionally, approximately 6 to 14 noble firs located on about an acre of BLM-administered land could need to be topped or removed to provide a clear line of sight for a new beam path.

Other Project alternatives (Alternatives 3A, 3B, 4 and 5) would involve decommissioning the existing BPA communications facility at the summit. The BPA building and associated equipment would be dismantled and removed from the site using the existing access road. The impacts would likely be similar for these alternatives. Therefore, the same areas would need to be surveyed for vegetation under all summit communications facility alternatives.

Marys Peak Climate, Soils, and Vegetation

Marys Peak has an elevation of 4,097 feet. The climate is driven by elevation and proximity to the Pacific Ocean. The majority of the annual precipitation at the communications site occurs in the winter months and sharply declines during the summer months. The recent five-year precipitation average was just over 49 inches in the winter and almost 3 inches in the summer (2011-2016, data from PRISM Climate Group).

The soil types at Marys Peak vary depending on aspect but are mostly loamy colluvium and residuum derived basalt. The soil at the summit experiences considerable wind and water erosion and tends to be thinner than that near the access road. All soils types present are well drained.

Marys Peak features forest, grassland, riparian and rock garden habitat types. There is a narrow riparian area that flows from the summit on the northern slope and runs west and southwest. An almost pure stand of noble fir (*Abies procera*) occurs near the summit, representing the most extensive noble fir stand in the Coast Range. The forests on Marys Peak are dominated by noble fir at higher elevations, and by Douglas fir (*Pseudotsuga menziesii*) and western hemlock (*Tsuga heterophylla*) at lower elevations. Western hemlock is mostly found at lower elevations on the wetter north and west slopes. The most prominent grassland is a 130 acre grass bald on the top of the mountain. Along with dense grasses, this grassland area supports a diverse assemblage of forbs including lilies, yarrow, violets, ferns, and other perennials.

Franklin and Dyrness 1988 describe Marys Peak as the highest point of the Coastal Ranges Province. This Province extends from Oregon at the middle fork of the Coquille River northward into southwestern Washington covering the Willapa Hills. Geologic history of the area begins in the early Eocene Epoch with the deposition of basalt "pillows". Further into the Eocene, the Tyee formation was deposited in marine conditions, making up much of the southern coastal range. Marys Peak was capped by igneous intrusions during the Oligocene causing it to be the most prominent peak of the Coastal Range (Franklin and Dyrness 1973).

Vegetation Survey Area

The total vegetation survey area is approximately 7.6 acres in size and it includes areas where direct impacts (from construction and staging) and potential indirect impacts (areas adjacent to construction areas) from the Project could affect vegetation.

The survey area included three focal areas: the fenced communications site on the summit of Marys Peak plus a 50 foot buffer around the outside perimeter of the fence; the access road leading from the paved parking lot located north of the summit to the summit communications site plus a 50 foot wide area centered on the access road (25 feet on either side of the road centerline); and approximately one acre of an almost pure noble fir stand (Figure 2). The survey area included grassland, rock garden, and a noble fir stand.

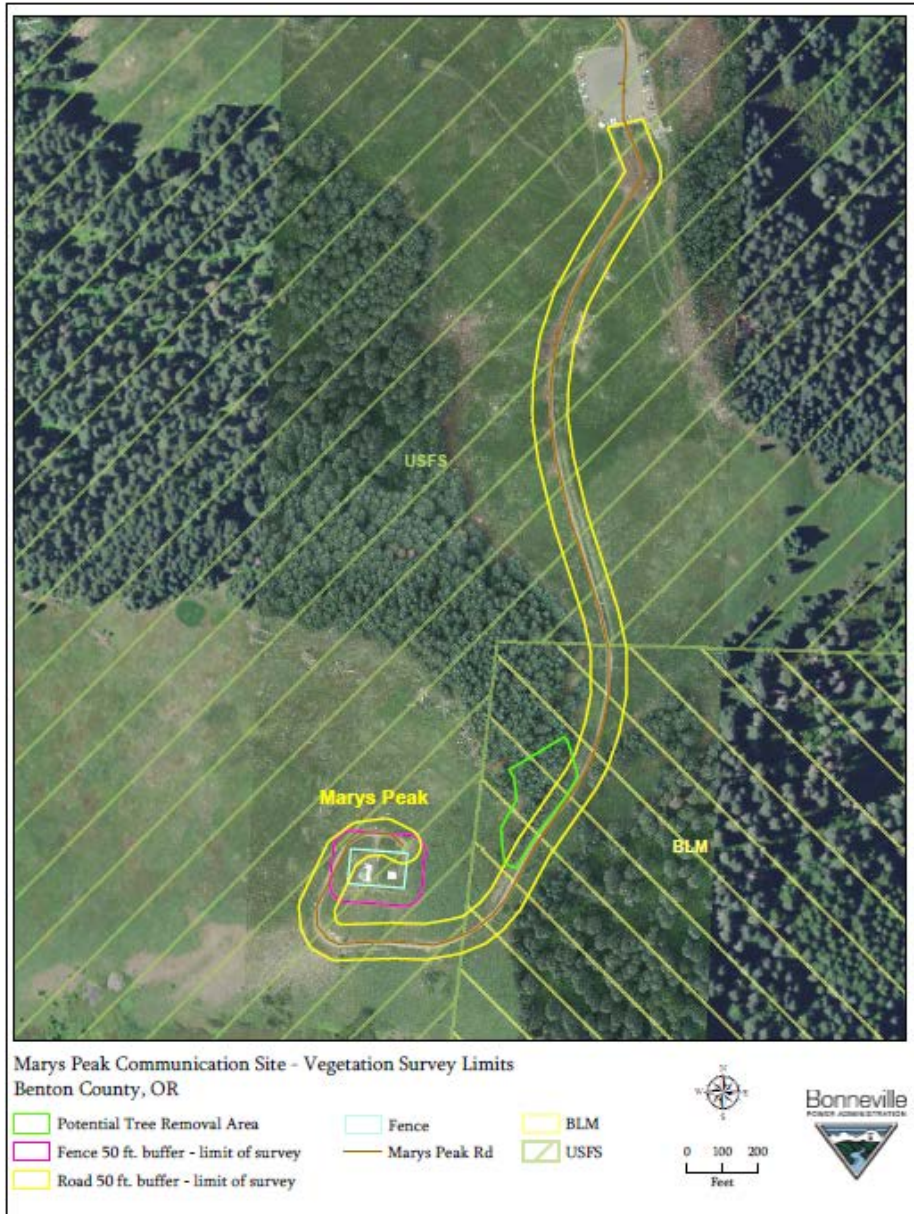


Figure 2. Vegetation survey area for the Marys Peak component of the Marys Peak BPA Communications Site Project. (figure courtesy of Bonneville Power Administration).

Background Research

Prior to conducting the survey, RST performed background research and then created a Vegetation Survey Plan for the Project. The survey plan included all special status species that would be surveyed for (target survey special-status species list) and the methods that would be used. The Survey Plan was reviewed by BPA, USFS, and the BLM, prior to conducting field surveys. This section includes information from the Survey Plan.

Special-status Plant Species

For the purposes of the survey, special-status plant species are defined as are those plant taxa tracked as rare plant species by the Oregon Biodiversity Information Center (ORBIC 2017) that have the potential to occur in the Project area. ORBIC's rare plant species database is comprehensive, and encompasses taxa from throughout Oregon. The database includes all taxa on the SNF's and BLM's Sensitive plant species lists, and all federally listed, proposed, and candidate plant species occurring in Oregon.

A list of special-status plant species (target survey special-status species list) for the Project vegetation survey plan was compiled based on information from ORBIC, the U.S. Fish and Wildlife Service (USFWS), the USFS Central Coast Ranger District, and the available body of literature. BPA conducted a query of the ORBIC rare plant database in February 2017 to acquire a list of special-status plant species known to occur within 1 mile of the Project area (Becky Hill, BPA Environmental Protection Specialist, pers. comm.). The query found 15 species occurrences, including 13 fungi, 1 moss, and 1 vascular plant. Of the 15 species, six species are not suspected or documented on the SNF's nor the BLM's lists; these species are denoted by an asterisks in Attachment 1. The remaining nine species appeared on both SNF and BLM lists, although variations occurred between the two agencies with regard to the species having been documented or suspected.

A 5-step process was used to summarize assessment procedures for non-vascular species currently listed on the Regional Forester's Sensitive Species List for the Siuslaw National Forest (FSM 2672.4). This list was revised in October, 2015, and it is this version that will be used in assessing Sensitive species for the project, in addition to the current U.S. Fish and Wildlife Service Federal Species List.

The 5-step process consists of 1) pre-field review of existing information; 2) a field reconnaissance if listed species or habitats are determined to be present and potentially affected by the proposed action; 3) an evaluation of project effects on species and habitats; 4) an analysis of the significance of the project's effects on local and entire populations of Sensitive species; 5) if needed (due to lack of information), a biological investigation is completed. A determination of No Impact for Sensitive species can be made at any step in the process, at which time the biological evaluation is complete. If the biological evaluation determinations indicate there may be an effect to proposed or listed species, conferencing or informal/formal consultation with USFWS, as outlined in FSM 2673.2, would be initiated.

Through this process 20 non-vascular species were identified as having suitable habitat either present or assumed within the Project area. Of these, five had been previously identified and 15 were new additions to the list described above. Therefore, the additional 15 non-vascular species (6 fungi, 5 moss, and 4 lichen) were incorporated into Attachment 1, resulting in 30 species total, and included on the target special-status species list. Eleven of the fungi species included in Attachment 1 are designated as USFS Regional Forester's Sensitive species.

In addition, the BPA Communications Site 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).

A pre-field review (NRM TESP/Invasive 2017) found no known occurrences within the Project area for Survey and Manage species at project initiation. Potential habitat was determined to be present for six

Management Category A or C species that require pre-disturbance surveys. Management Category A species are considered rare, are managed at all known sites, and require pre-disturbance and strategic surveys. Management Category C species are considered uncommon and managed at high-priority sites only. Category C species also require pre-disturbance surveys and strategic surveys. Therefore, these six species (Table 2) were included on the target survey special-status species list.

Table 2. Non-vascular Survey and Manage species for which suitable habitat is present.

Species	Group	Suitable Habitat	Management Category
<i>Schistostega pennata</i>	Bryophyte	Grows primarily on mineral soil in cave entrances or crevices and sheltered areas on the root mass of fallen trees. Found to be associated with silver fir, western hemlock, mountain hemlock, Sitka spruce, western red cedar, and lodgepole pine.	A
<i>TetrAPHIS geniculata</i>	Bryophyte	Found on large decaying logs in cool moist areas. Known to exist in stands of Sitka spruce, western hemlock, and Douglas-fir.	A
<i>Bridgeoporus nobilissimus</i>	Fungi	On true fir (<i>Abies</i> spp.) trees, snags and stumps particularly noble fir (<i>A. procera</i>).	A
<i>Hypogymnia duplicata</i>	Lichen	Grows as an epiphyte on mountain hemlock, western hemlock, Pacific silver fir, and subalpine fir in old-growth forests of the western Cascades, Olympics, and Coast Range. Primarily found between 1100 – 5450 feet elevation.	C
<i>Lobaria linita</i> var. <i>tenuoir</i>	Lichen	Lower boles of conifers and moss covered rocks in cool microsites. Only coastal Oregon location near the summit of Mt. Hebo.	A
<i>Pseudocyphellaria rainierensis</i>	Lichen	Grows as an epiphyte in cool, humid, old-growth coniferous forests. Endemic to the Pacific Northwest and grows between 330-4000 feet in elevation.	A

The U.S. Fish and Wildlife Service (2016) provided BPA a list of federally listed, proposed, and candidate species for Benton County (Attachment 2). Bradshaw's desert-parsley (*Lomatium bradshawii*), golden paintbrush (*Castilleja levisecta*), Kincaid's lupine (*Lupinus oreganus*), Nelson's checker-mallow (*Sidalcea nelsoniana*), water howellia (*Howellia aquatilis*), and Willamette daisy (*Erigeron decumbens*) are the only federally listed, proposed, or candidate plant species identified by the U.S. Fish and Wildlife Service (2016) with the potential to occur in the Project area.

Two BPA Environmental Protection staff conducted a preliminary vegetation reconnaissance survey of the Project area on June 27, 2016, but did not observe any of the previously mentioned species. However, June may not be the appropriate blooming period for those species included on the special-status plant target list for the Project area, so they were surveyed for again in 2017 at the appropriate time.

As part of the early planning process for the Project, BPA obtained a copy of the SNF and BLM Sensitive plant species list (ISSSSP website 2014). The combined Sensitive plant species list for the SNF and BLM Salem District includes 297 taxa (Attachment 3).

In an effort to elucidate the probability of species occurrence, species that appear on the SNF and BLM Sensitive plant lists, for which suitable habitat is suspected to be present at Marys Peak, were then cross-referenced using the Consortium of Pacific Northwest Herbaria in order to locate the specimen records nearest to the Project site. This online portal provides access to 16 herbaria from multiple institutions across Canada and the United States. These same species were then cross-referenced again using The Oregon Plant Atlas mapping tool of the Oregon Flora Project and against additional historical species lists (Unknown 1992; McEvoy et al. 2005; and Hays et al. 2012).

The survey area is limited in total acreage and diversity of habitat. Species whose distributions are restricted by substantive habitat requirements that are not supported within the Project area, such as aquatic, riparian, low elevation, coastal species, etc., were not included in the target special-status species list. Additionally, species for which historical observations had occurred at the limits of their historic range, and where the environment of that historic range has experienced significant alteration (i.e., development, ecological succession, prolonged land management changes, etc.) were not included.

Information from all of these sources was used to produce a list of special-status species (target survey special-status species list) for the Project's vegetation survey (Attachment 4). The survey plan was submitted to the SNF and BLM for their review of the target survey special-status species list, to request information regarding known locations of these species in the Project area, and to review the proposed survey protocols and timing for the surveys.

Noxious weeds

The Oregon Department of Agriculture Noxious Weed Lists include 132 species (Oregon Department of Agriculture 2017), 68 of which are included in the Benton County Noxious Weed Species list (Benton Soil and Water Conservation District 2017). Nearly all species on the Benton County noxious weeds list have the potential to occur at, or near, the Project area, including in the vicinity of the access roads. The list of noxious weeds that was surveyed for (target noxious weed species list) includes all species on the Benton County list except the following ten aquatic species: flowering rush (*Butomus umbellatus*), South American waterweed (*Egeria densa*), Hydrilla (*Hydrilla verticillata*), large-flower primrose (*Ludwigia grandiflora*), floating primrose (*Ludwigia hexapetala*), water primrose (*Ludwigia peploides*), parrot

feather (*Myriophyllum aquaticum*), Eurasian watermilfoil (*Myriophyllum spicatum*), yellow floating heart (*Nymphoides peltata*), and European water chestnut (*Trapa natans*). The target noxious weed species list is provided in Attachment 5.

Plant communities

Aerial imagery was reviewed prior to initiating field surveys to assess general vegetation patterns and plant communities in the Project area. This information facilitated mapping the plant communities for ecological assessment purposes.

Field Surveys Methodology

The vascular plant surveys were conducted using the methodology outline in the Survey Plan, without deviation, and as described below. The Project's vegetation survey area included:

- (1) Marys Peak summit communications site (within the existing chain link fence and a 50-foot wide buffer extending beyond the fence, approximately 1.2 acres)
- (2) Unpaved access road that leads from the paved parking lot (located on Marys Peak just below the summit) to the summit communications site (50 foot wide area centered on the existing road - approximately 5.45 acres)
- (3) A one acre stand of noble fir trees on BLM – administered lands

The vascular plant surveys were conducted during two distinct survey events during the appropriate time to identify target species; the first occurred from June 19th to June 22nd, 2017 by Lynda Moore and Sean Perks, and the second occurred on August 20, 2017 by Lynda Moore. A series of closely-spaced meandering transects were walked north to south in the fenced area, within the 50 foot buffer surrounding the fence; along the access road and the 50 foot buffer centered on the road center down to the parking lot; and within the noble fir survey area. All observed plant species within the survey area were identified using botanical knowledge, field guides, and dichotomous keys. Species that were unable to be identified in the field were collected for later identification using herbarium and other botanical resources. Noxious weeds were recorded using a handheld Trimble Juno SB device and photographed. Weather conditions ranged from sunny to cloudy, with variable wind.

The non-vascular plant (fungi, bryophyte and lichen) surveys occurred on October 31, 2017 by Matthew Smith and Marty Stein. The non-vascular vegetation survey was conducted by walking a series of closely-spaced meandering transects that traversed the variety of habitats present as well as an intuitive-controlled element whereby areas with slight differences in microsite or vegetation were explored. The surveys were intensive and habitats throughout the Project area were surveyed, leading to high survey coverage of the Project area. Habitats surveyed included rock, soil, soil crust, live tree boles and branches, litter, snags, and down wood.

The non-vascular plant survey was not designed to detect the 11 USFS Sensitive fungi species identified as having potential suitable habitat in the Project area (Attachment 1). Positive identification of fungi requires fruiting bodies (mushrooms) that may not reliably appear each year, or they fruit below-ground in the case of truffle species. A one-time survey cannot reliably determine species presence or absence for fungi that fruit above-ground, and searching for truffle species would involve removing soil, duff, and litter by raking the ground, creating large areas of unacceptable soil disturbance. These fungi species are therefore considered to be non-detectable by the survey. Presence is assumed if there is a

documented site, or if suitable habitat was found in the Project area. Suitable habitat was confirmed to be present in the Project area for 11 USFS Sensitive fungi species, which are included in Attachment 1, the target survey special-status species listed in Attachment 4, as well as in the Field Survey Results section below. The vast majority of the non-vascular species for which surveys were conducted require affiliation with coniferous trees. The exceptions to this are *Haplomitrium hookerii*, *Andreaea schofieldiana*, *Bryum calabryoides*, *Encalypta brevicollis*, and *Grimmia anomala*. Suitable habitat for *Haplomitrium hookerii* is sandy outwash areas adjacent to coastal streams. Suitable habitat for the remaining four species includes grassy or rocky habitats, such as potentially along the road and within the fenced area. They are all assumed to be present, although not observed in the field.

Field Documentation

Mapping of target special-status species, target noxious weed species, and vegetation communities observed during the vegetation surveys was recorded in paper and electronic formats.

Spatial data were collected utilizing the Universal Transverse Mercator system (UTM) and referenced the North American Datum of 1983 (NAD83). For the purposes of this survey, an occurrence was defined as one to numerous individuals of a special-status plant species growing together in a discrete area/patch. If the spacing between individuals exceeded 50 ft., the occurrences were mapped separately.

Photographic documentation of target species occurrences and plant communities are provided in this Vegetation Survey Report. The surveyors planned to observe populations of special-status species and photographed them twice: one photograph of the surrounding habitat and one close up showing identifying characteristics of at least one individual in the population. One close up and one wide-framed habitat photograph of an exemplar for each target noxious weed species observed within the Project area are provided. Each plant community encountered was photographically documented at an angle communicating the greatest information about that community or habitat.

Temporary flagging aided in the delineation of special-status species and target noxious weed species plant populations. Surveyors placed either pin flags or flagging tape to demarcate the perimeter of populations with large or complex distributions, adjusting as needed during the survey process. Once satisfied that the population was accurately delineated the surveyor retraced their steps, capturing the population distribution with GPS, and removing the flagging as they progressed.

Special-status Plant Species

Locations of special-status plant species observed during the vegetation survey were to be documented and mapped. The locations for any special-status plant species populations encountered during the survey were to be recorded with GPS and mapped. Abundance, habitat, and other conservation-related information were intended to be collected for each special-status plant species encountered during the survey. Information collected for each occurrence would have been used to complete an element occurrence form data sheet. However, no special-status plant species were observed.

Noxious weeds

The noxious weed species survey was conducted simultaneously with the special-status species survey, and covered all of the same vegetation survey areas. The locations for any noxious weed populations encountered during the survey were recorded with GPS and mapped. Information regarding the abundance and extent of the noxious weed species was collected. Representative photographs were

taken of each noxious weed species encountered during the survey. In addition, all noxious weed species were vouchered with a plant collection.

Plant Communities

The vegetation survey mapped, characterized, and assessed the ecological condition of plant communities within the Project area. Dominant species in each stratum (tree, shrub, grass, and forb) within each community type was recorded. Ecological condition of each mapped plant community was characterized as low, moderate, or high quality based on community composition, structure, seral status, and disturbance level attributes. Ecological condition assessments were based on the surveyor's best professional judgment to estimate the difference in vegetation attributes observed, versus those of the likely potential natural community (late seral condition) for the area. The following criteria were applied:

- "High" ecological condition will be used for areas having late seral plant composition and structure, minimal disturbance, and <5% estimated cover introduced (non-native) species.
- "Moderate" ecological condition will be used for areas having incomplete or skewed plant community structure and composition, most likely due to disturbance factors. Introduced species may be well represented, with up to approximately 25% cover.
- "Low" ecological condition will be used for communities with substantially altered plant composition and structure. These will be areas dominated by weed and/or "increaser" species with greater than 25% cover, and/or have relatively sparse vegetation with high bare ground cover and ample evidence of past disturbance.

GIS Data Collection

Target species (SNF and BLM Sensitive plants and noxious weeds) occurrences were documented as "populations" with polygons corresponding to data fields recorded for each population, including a density estimate and range of number of individuals (i.e. 1-10, 10-100, 100-1,000). Populations were mapped independently if they were separated by a distance of approximately 50 feet or greater; or using an appropriate, consistent separation distance as determined by field botanists considering field observations, such as species and terrain.

Data collection resolution was appropriate to estimate the density and size of existing noxious weed populations, not individuals. Point data were not collected. Spatial data were collected utilizing Trimble Juno SB field units, which have an accuracy of 1-3 meters.

Botanists' Resumes

The botanists assigned to conduct and document the vegetation survey were Lynda Moore, Matthew Smith, and Marty Stein. Project field support was provided by Sean Perks. Lynda Moore's and Sean Perks' resumes are included as Attachment 6 to this report.

Field Survey Results

Plant Species Observed

Lists of all vascular and non-vascular plants observed during the 2017 field surveys are provided in Attachment 7 and 8, respectively.

Target Special-status Species Present

No target survey special-status vascular or non-vascular plant species were observed during 2017 Project vegetation surveys.

The 2017 non-vascular survey found suitable habitat within the noble fir stand for the 11 Sensitive fungi identified in the pre-field research (Table 3, Attachments 1 and 4). However, at the time of the survey, very few fruiting bodies were found and it appeared that conditions for fungal fruiting were poor. Because habitat was present, it should be assumed that all 11 Sensitive fungi occur within the forested portion of the Project area, although no observations were made of these species in the field. No other threatened, endangered, or sensitive species were detected by the non-vascular plant survey.

Brief descriptions of the 11 Sensitive fungi and associated potential threats are described below:

Bridgeoporus nobilissimus is endemic to the Pacific Northwest. Approximately 104 documented sites occur in the Olympic Mountains, western Cascades of both Oregon and Washington, and the Oregon Coast Range (ISSSSP 2007). Because the fungus generally requires noble fir (*Abies procera*) and Pacific silver fir (*Abies amabilis*) as a host, its range coincides with these two tree species. The fruiting body (conk) is one of the largest of any fungi, growing up to 3-4 feet across and persisting for many years. Typically, conks are found on the boles of large snags (3 ft. or more in diameter), but the mycelium has been found within live 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. One site is documented on the Siuslaw National Forest (ISSSSP 2013). The species is mycorrhizal. Habitat is most often associated with forested wetlands (ISSSSP 2013). 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 25 sites including one documented from Siuslaw National Forest (ISSSSP 2013). The general habitat description is forested wetlands (ISSSSP 2013). As a mycorrhizal species, threats to the species persistence would include activities that remove host trees.

Cystangium idahoensis is endemic to the western US where it is known from three locations in Oregon and Idaho. One population occurs at the Marys Peak Campground within Siuslaw National Forest lands (ISSSSP 2013). Populations of this species are located in Pacific silver fir and western hemlock plant associations. It is a mycorrhizal species; threats that impact host trees or actions that disturb the soil and duff could adversely impact the species.

Gastrolactarius camphoratus is endemic to the Pacific Northwest. It is known from 17 sites in the Siskiyou Mountains, Oregon Coast Range and Olympic Mountains (ISSSSP 2013). There are no known sites on the Siuslaw National Forest. 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.

Phaeocollybia californica is endemic to the Pacific Northwest, where it is known 56 sites in western Washington, western Oregon and northern California (Norvell and Exeter 2008, ISSSSP 2013). There are three sites known to occur on the Siuslaw National Forest (ISSSSP 2013). 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 dissiliens is endemic to the Oregon coast, Coast Range, and west slope of the Cascades (Norvell and Exeter 2008). There are a total of 20 known sites, one of which occurs on the Siuslaw National Forest in the vicinity of Marys Peak. The species is mycorrhizal with conifers. Threats include any activities that remove host trees.

Phaeocollybia gregaria is endemic to Oregon, where it is known from ten sites, including four on the Siuslaw National Forest (ISSSSP 2013). 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 from British Columbia to Oregon. A total of 9 sites are known from Oregon (Norvell and Exeter 2008), two of which occur on the Siuslaw National Forest (NRM TESP/Invasive 2015). 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.

Pseudorhizina californica is known from 14 sites in Oregon and Washington, primarily in the Cascade and Olympic Mountains (ISSSSP 2013). There is one site documented from the Siuslaw National Forest (ISSSSP 2013). 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.

Rhizopogon exiguous is endemic to Oregon and Washington where it known from seven sites, including one on the Siuslaw National Forest in the vicinity of Marys Peak (Castellano et al. 1999, ISSSSP 2013). 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.

Table 3. Eleven USFS Sensitive species of fungi for which suitable habitat was observed in the Project area, and should be assumed present.

Species	Status	Suitable Habitat
<i>Bridgeoporus nobilissimus</i>	ORBIC List 1 G3, S3	On true fir (<i>Abies spp.</i>) trees, snags and stumps particularly noble fir (<i>A. procera</i>)
<i>Chamonixia caespitosa</i>	ORBIC List 2 G5, S1	Mycorrhizal with conifers. Known from Cape Perpetua and Cascade Head Experimental Forest
<i>Cortinarius barlowensis</i>	ORBIC List 2 G3,S2	Terrestrial in coastal to montane conifer forests
<i>Cystangium idahoensis</i>	ORBIC List 1 G2G3, S1	Mycorrhizal with true fir above 3600 feet. Known on Marys Peak
<i>Gastrolactarius camphoratus</i>	ORBIC List 1 G2, S2	Mycorrhizal with Douglas-fir and western hemlock. Known from Cummins Creek Area
<i>Phaeocollybia californica</i>	ORBIC List 1 G3, S3	Mycorrhizal with conifers. Known from Cascade Head Experimental Forest
<i>Phaeocollybia dissiliens</i>	ORBIC List 3 G3, S3	Mycorrhizal with conifers. Endemic to the Oregon coast and Coast Range. Known from Marys Peak
<i>Phaeocollybia gregaria</i>	ORBIC list 1 G1G2, S1S2	Mycorrhizal with Douglas-fir and Sitka spruce. Known from Cascade Head Experimental Forest
<i>Phaeocollybia oregonensis</i>	ORBIC List 1 G2?, S2?	Terrestrial in conifer forest. Endemic to the Oregon Cascades and Coast Range
<i>Pseudorhizina californica</i>	ORBIC List 2 ODA/ODFW: SE G4, S2	Well-rotted stumps or logs of coniferous trees and litter or soil rich in brown rotted wood. One site on the Siuslaw National Forest
<i>Rhizopogon exiguus</i>	ODA/ODFW: SE G2G3, S1S2	Mycorrhizal with Douglas fir and w. hemlock. Known from Marys Peak

The Ranks "S" for state and "G" for global follow a 1-5 ranking system:

1 = Critically imperiled; 2 = Imperiled; 3 = Rare and uncommon, vulnerable; 4 = Not rare and apparently secure; 5 = Demonstrably widespread, abundant and secure

A "?" after a rank denotes an ORBIC probable rank:

ORBIC List 1 = Threatened or endangered throughout range

ORBIC List 2 = Threatened or endangered in Oregon but secure elsewhere

ORBIC List 3 = Review species, taxa for which more information is needed

ORBIC List 4 = Watch, taxa of conservation concern but are not currently threatened or endangered

Oregon Department of Agriculture/Oregon Department of Fish and Wildlife state designations are as follow: SC = state candidate; ST = state threatened; SE = state endangered

Target Noxious Weed Species Present

Two species of state listed noxious weeds were observed within the survey area: common St. Johnswort (*Hypericum perforatum*) and tansy ragwort (*Senecio jacobaea*) (Figure 3). The phenology of both genera was vegetative, with none of the plants observed having flowered yet. Despite the lack of flowers, both of these species are easily identified in their vegetative states.

Three populations of common St. Johnswort were observed within the grassland of the fenced and perimeter buffer areas at the summit (Figure 4), while one population of each (common St. Johnswort and tansy ragwort) were observed in the grassland near the parking lot trailhead (Figure 5). Both populations are described and depicted below (Figures 6, 7, and 8).

Field data forms utilized during the vegetation surveys are included in Attachment 9.



Figure 3. Overview of target plants observed at Marys Peak BPA Communications Site Project area.



Figure 4. Close up of target weed observances at the fenced area of Marys Peak BPA Communications Site Project area.

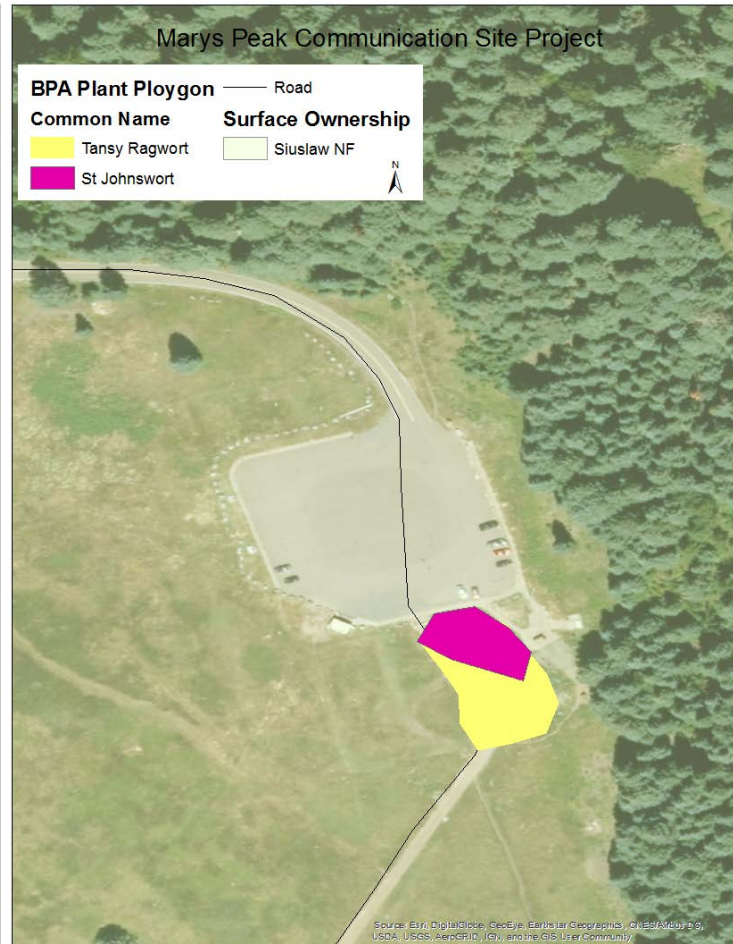


Figure 5. Close up of target weed observances near the parking lot area of Marys Peak Communications Site Project area.

Common St. Johnswort (*Hypericum perforatum*) – This weed species is an annual, 1-3 feet; stems branching, green to rust color, become woody at base; flowers yellow with black dots at edge of sepals; leaves opposite, translucent glandular dots. This plant is an Oregon 'B' listed plant, which is targeted for management by the USFS. Common St. John's wort is designated as an Oregon Category B weed, which is designated for management by ODA in priority areas only in Benton County.



Figure 6. Representative photographs of common St. Johnswort plant (left) and habitat (right) observed at Marys Peak communications site (right). Photograph taken June 20, 2017.

Tansy ragwort [*Senecio jacobaea* (*Jacobaea vulgaris*)] – This plant is a biennial or short-lived perennial, 1-6 feet; flower stalks branching; flowers bright yellow, usually with 13 petals; stems purplish-red; leaves ruffled looking, dark green, deeply lobed. Tansy ragwort is an invasive noxious weed that is toxic to most livestock. This species is listed as a category ‘B’ noxious weed which is designated for management in priority areas by ODA in Benton County. This species is also targeted for biocontrol in Oregon and is of management concern to the USFS.



Figure 7. Representative photographs of tansy ragwort habitat observed within the Project area. Photograph taken June 21, 2017.



Figure 8. Representative photographs of tansy ragwort close-up of plant observed within the Project area. Photograph taken June 21, 2017.

Description of Vegetation types/Plant Communities

The three predominant vegetation types in the survey area are:

- **Grassland** – Includes fenced area around the summit communications site and the edges of the access road leading from the communications site to the parking lot (USFS ownership) (figures 9, 10, and 11 below).
- **Rock garden** – Includes plant communities on the south and west facing rocky outcrop along the access road, approaching the summit (USFS ownership) (figures 12 and 13 below).
- **Noble Fir stand** – Includes the 1 acre stand of noble fir trees (BLM ownership) (figures 14 and 15 below).

Grassland

The **grassland** habitat in the survey area has an overall quality of “moderate” due to disturbance and high representation of introduced species. The plants that make up this community are forbs, graminoids, and shrubs. Construction and maintenance of communications buildings, and foot/vehicle traffic make up most of the disturbances within the fenced area and 50 foot fence buffer (figures 9 and 10). The access road and “social trails” (developed by off-trail pedestrians) compact soil and leave bare spots in the vegetation from the summit to the parking lot. These social trails cut through the grassland near the parking lot (figure 11), as well as on either side of the access road within the road buffer survey area. There is also evidence of past thinning to prevent noble fir encroachment on the grassland, although most of this activity has occurred beyond the survey area.

Although state listed noxious weed species are low (0-100 plants and less than 1% cover of all areas occupied by observed noxious weed species), introduced (non-native) species provide greater than 5% aerial cover of the survey area. Most noticeably, non-native oxeye daisy (*Leucanthemum vulgare*) is common and persistent in the fenced area and along the road down to the parking lot. Non-native sour dock (*Rumex acetosella*) is spread throughout the grassland from the summit to the parking lot.

The highest concentration of state listed noxious weeds (tansy ragwort and St. Johnswort) is found close to the parking lot where recreational and disturbance associated with recent logging is greatest. The community nearest the parking lot is still in early succession.

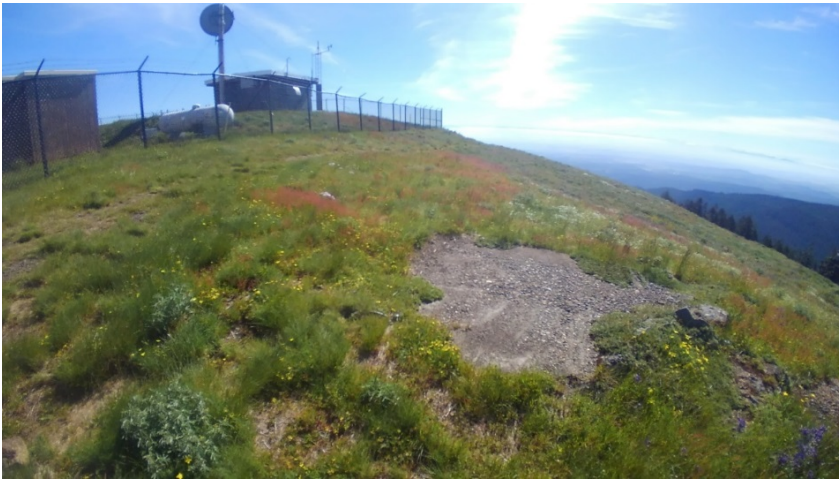


Figure 9. Example of grassland at the summit located just outside the fence around the Marys Peak communications site. Photograph taken June 20, 2017 looking east.



Figure 10. Grassland habitat within the fence and 50 foot buffer at the summit of the Project area. Photograph taken June 20, 2017 looking south.



Figure 11. Example of grassland along the access road (right) to the summit and user-defined trail (left) of the Project area. Photograph taken June 21, 2017 looking south.

Rock Garden

The **rock garden** (USFS ownership) plant community can be classified as “high quality” due to the predominance and variety of native species, few introduced species, and low instance of recreation and other disturbances (figure 12). This unique microhabitat consists of forbs and graminoids. Although the access road leading to the summit may have limited the extent of the rock garden habitat, the current rock garden plant community seems to have late seral composition. This is based on the presence of large, established, and sustaining patches of vegetation and late seral species such as spreading phlox (*Phlox diffusa*) and Cardwell’s penstemon (*Penstemon cardwellii*) (figure 13). There are some signs of trampling, thinning, and erosion, however, but introduced species are low, and no state listed noxious weeds were observed.



Figure 12. Rock garden habitat near the summit of the Project area. Photograph taken June 20, 2017 from the access road, looking north.



Figure 13. Rock garden habitat near the summit of the Project area, adjacent to the access road. Photograph taken June 20, 2017, looking southeast.

Noble Fir Stand

The **noble fir stand** (BLM ownership) can be classified as “high quality” because it exhibits late seral characteristics, little disturbance, and few introduced species. Some evidence of thinning (tree removal) can be seen near the edges of the stand, and there is an established trail near the northern border (figure 14). Other than the trail, recreational disturbance is very low. The understory consists of natural noble fir debris (figure 15), several flowering forbs, and scattered graminoids. The only introduced species observed in the noble fir stand was sour dock (*Rumex acetosella*).



Figure 14. Trail within the noble fir stand in the Project area. Photograph taken looking southwest, June 21, 2017.



Figure 15. Noble fir habitat and natural debris at the Project area. Photograph taken June 21, 2017.

Project area land uses

Marys Peak has been affected by historical livestock grazing and logging, fire suppression, construction/maintenance of structures on the summit, and recreation (USFS 1989). Historical logging and grazing may have impacted meadow quality in the past and guided the ecosystems observed today. It is believed that fire suppression led to forest encroachment into the grasslands on Marys Peak, including within the survey area. Without infrequent fires to maintain the grassland, the Forest Service recently removed some trees that had spread into the meadows (Frenkel *et al.* 2012).

The survey area has been affected by the construction of a fire lookout tower in 1942, a military radio tower in 1959, and the current USFS and BPA communications sites. Road building, trenching, and construction can create barriers between plant communities, remove/compact topsoil, increase erosion, and aid in the establishment of introduced species and noxious weeds (Frenkel *et al.* 2012). Soil removal and erosion can also deplete the native seed bank in existing vegetation and soil, hindering the ability of native species to reestablish themselves in disturbed areas. Recreation is popular in the survey area and large numbers of visitors are attracted every year to the Marys Peak summit and the trails that lead to the summit. Recreationists in the survey area have caused further compaction, erosion, and degradation of the soil as people deviate from trails and form bare spots in the landscape. This has most likely also led to the introduction of non-native species because seed can be spread and carried on clothing/shoes/vehicles, and establish easily in disturbed areas.

Potential Impacts from Project Implementation

A goal when implementing this project is to avoid impacting the ecosystem and scenic quality of the Project area as much as possible. Direct and indirect impacts from implementation could affect vegetation resources, which would impact habitat and scenic quality immediately or over time. Direct effects are caused by the action and occur at the same time and place (40 CFR § 1508.8). Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable (40 CFR § 1508.8).

The potential impacts of the proposed Project could include:

- Removal of native vegetation
- Soil compaction/topsoil removal
- Erosion
- Native seed bank reduction or depletion
- Introduction or spread of non-native and noxious weed
- Off-trail pedestrian traffic due to access limitations during construction
- General trampling of plants that may or may not affect their long term viability
- Removal or disturbance of non-vascular host trees will reduce habitat
- Removal or disturbance of down wood, snags, and stumps will reduce some non-vascular species habitat
- Physical disturbance of soil and duff layers can negatively impact soil dwelling non-vascular species

Vegetation removal and soil compaction/topsoil removal within the fenced area would result in direct impacts to vegetation from frequent vehicle/foot traffic, and the construction of new buildings and

towers. Removing vegetation creates gaps in plant communities and obstructs revegetation by reducing the quantity and diversity of seed presence through vegetation removal during construction activities. This could also increase erosion, which would further deplete soil nutrients, and inhibit plant reestablishment.

Invasive and non-native species thrive in disturbed areas and often establish themselves before native plants can reestablish because they are more competitive in degraded habitats. Eroded, cleared, or compacted soil could become a permanent invasive community without human intervention. Once an invasive plant population becomes established, invasive species could spread and decrease surrounding biodiversity and native species.

Invasive species are often spread by humans accidentally and they can establish themselves in native plant communities. Many introduced species become a long term or permanent problem. Seeds and spores latch onto construction equipment, tools, vehicles, shoes/clothing, pets, and other objects. This Project could potentially introduce non-native species by accidentally dispersing invasive noxious weed seed.

The rock garden is an especially sensitive plant community because the south facing rocky surface creates a unique microclimate in which a variety of native species thrive, the soils tend to be thin, and the area is highly erodible. If significant erosion occurs, drainage patterns are altered, or consistent off-trail pedestrian foot traffic occurs during construction, the rock garden habitat could become degraded.

Potential direct and indirect impacts from the Project, if no implementation of the suggested Best Management Practices occurs, are depicted in Table 4 below.

Table 4. List of possible impacts and potential length of persistence. (Short-term = less than 10 years, long-term = between 10-100 years, and permanent = over 100 years, without human intervention.)

Impact (Direct or Indirect)	Timeframe of impact
Vegetation removal (Direct)	Short-term
Reduction in native seed bank (Direct)	Long-term
Topsoil removal (Direct)	Permanent
Soil compaction (Direct)	Long-term
Erosion (Direct and indirect)	Short-term or permanent
Invasive species introduction into native plant communities not disturbed by construction (Indirect)	Long term – permanent*
Invasive species colonization of areas disturbed by construction (Indirect)	Long term – permanent*
General trampling of vegetation	Short term

*Depending on size of area and species of invasive plant and success of control efforts

The source of potential impacts include host tree removal, woody debris removal, and disturbing soil and duff layers. Many of the non-vascular species require a host tree to persist, and removing host trees will negatively impact those species. Soil disturbance may occur from vehicle/foot traffic, road

extension, and the use of staging areas. Physical disturbance or removal of vegetation or soil will impact non-vascular species by removing habitat/substrate. Indirect impacts that have the potential to alter habitat composition and moisture availability include erosion and invasive species introduction.

A 5-step process was used to summarize assessment procedures for non-vascular species currently listed on the Regional Forester’s Sensitive Species List for the Siuslaw National Forest (FSM 2672.4). This list was revised in October, 2015, and it is this version that was used in assessing Sensitive species for the project, in addition to the current U.S. Fish and Wildlife Service Federal Species List.

The 5-step process consists of 1) pre-field review of existing information; 2) a field reconnaissance if listed species or habitats are determined to be present and potentially affected by the proposed action; 3) an evaluation of project effects on species and habitats; 4) an analysis of the significance of the project’s effects on local and entire populations of Sensitive species; 5) if needed (due to lack of information), a biological investigation is completed.

A determination of No Impact for Sensitive species can be made at any step in the process, at which time the biological evaluation is complete. If the biological evaluation determinations indicate there may be an effect to proposed or listed species, conferencing or informal/formal consultation with USFWS, as outlined in FSM 2673.2, would be initiated. Table 5 below describes the evaluation of potential impacts relative to the non-vascular species for which potential habitat occurs within the project area.

Table 5. Biological evaluation summary of effects specific to the non-vascular species. Analysis of effects and biological investigation were not required because it is anticipated that the cumulative effect of these activities would result in no impact to Sensitive fungi species.

SPECIES	Potential habitat?	Habitat Description	Species present?	Determination of Effects	Analysis of Effects	Biological Investigation
Bryophytes						
<i>Andreaea schofieldiana</i>	Yes ^a Rock garden/meadow/road	On igneous rock outcrops at middle to high elevation. Known from British Columbia to California.	No	No Impact	N/A	N/A
<i>Bryum calobryoides</i>	Yes ^a Rock garden/meadow/road	Damp soil, rock ledges, and outcrops at middle to higher elevations.	No	No Impact	N/A	N/A
<i>Encalypta brevicollis</i>	Yes ^a Rock garden/meadow/road	Igneous rock outcrops at mid-elevations subject to frequent fog. Known from across Canada and sites in the Siskiyou Mountains.	No	No Impact	N/A	N/A

SPECIES	Potential habitat?	Habitat Description	Species present?	Determination of Effects	Analysis of Effects	Biological Investigation
<i>Entosthodon fascicularis</i>	Yes ^a Much of project area	Seasonally wet soil below 3,000 feet.	No	No Impact	N/A	N/A
<i>Grimmia anomala</i>	Yes ^a Rock garden	Exposed igneous rocks at mid-upper elevations.	No	No Impact	N/A	N/A
<i>Haplomitrium hookerii</i>	Yes ^a Rock garden/meadow/road	Pacific northwest on sandy outwash areas adjacent to coastal streams.	No	No Impact	N/A	N/A
<i>Tetraphis geniculata</i>	Yes ^a Forested areas	Older conifer forest, occurring on snags, logs and stumps.	No	No Impact	N/A	N/A
Lichens						
<i>Bryoria subcana</i>	Yes ^a Forested areas	On conifers, generally in mature stands with high humidity microsites. Year-round.	No	No Impact	N/A	N/A
<i>Lobaria linita</i>	Yes ^a Forested areas	Lower boles of conifers and moss covered rocks in cool microsites. Only coastal Oregon location near the summit of Mt. Hebo.	No	No Impact	N/A	N/A
<i>Tholurna dissimilis</i>	Yes ^a Forested areas	Epiphytic on exposed branches and twigs in humid alpine and sub-alpine habitats.	No	No Impact	N/A	N/A
Fungi						
<i>Bridgeoporus nobilissimus</i>	Yes ^a Forested areas	On true fir (<i>Abies spp.</i>) trees, snags and stumps particularly noble fir (<i>A. procera</i>).	Assumed ^b	MIIH ^c	N/A	N/A
<i>Chamonixia caespitosa</i>	Yes ^a Forested areas	Mycorrhizal with conifers. Known from Cape Perpetua and	Assumed ^b	MIIH ^c	N/A	N/A

SPECIES	Potential habitat?	Habitat Description	Species present?	Determination of Effects	Analysis of Effects	Biological Investigation
		Cascade Head Experimental Forest.				
<i>Chrysomphalina grossula</i>	Yes ^a Forested areas	On water-soaked coniferous wood in mixed forests.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Cortinarius barlowensis</i>	Yes ^a Forested areas	Terrestrial in coastal to montane conifer forests.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Cystangium idahoensis</i>	Yes ^a Forested areas	Mycorrhizal with true fir above 3600 feet. Known on Marys Peak.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Elaphomyces subviscidus</i>	Yes ^a Forested areas	Mycorrhizal with conifers. Known from Connors Camp, Marys Peak area.	Assumed	MIIH ^c	N/A	N/A
<i>Gastrolactarius camphoratus</i>	Yes ^a Forested areas	Mycorrhizal with Douglas-fir and western hemlock. Known from Cummins Creek Area.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Melanogaster natsii</i>	Yes ^a Forested areas	Western Washington to southern California. Associated with the Pinaceae family.	Assumed.	MIIH ^c	N/A	N/A
<i>Otidea smithii</i>	Yes ^a Forested areas	Known from lower elevations of Marys Peak.	Assumed.	MIIH ^c	N/A	N/A
<i>Phaeocollybia californica</i>	Yes ^a Forested areas	Mycorrhizal with conifers. Known from Cascade Head Exp. Forest.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Phaeocollybia dissiliens</i>	Yes ^a Forested areas	Mycorrhizal with conifers. Endemic to the Oregon coast and Coast Range. Known from Marys Peak.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Phaeocollybia gregaria</i>	Yes ^a Forested areas	Mycorrhizal with Douglas-fir and Sitka spruce. Known from Cascade Head Experimental Forest.	Assumed ^b	MIIH ^c	N/A	N/A

SPECIES	Potential habitat?	Habitat Description	Species present?	Determination of Effects	Analysis of Effects	Biological Investigation
<i>Phaeocollybia oregonensis</i>	Yes ^a Forested areas	Terrestrial in conifer forest. Endemic to the Oregon Cascades and Coast Range.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Phaeocollybia sipei</i>	Yes ^a Forested areas	Terrestrial in moist coniferous forests.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Phaeocollybia spadiceae</i>	Yes ^a Forested areas	Terrestrial in moist coniferous forests	Assumed ^b	MIIH ^c	N/A	N/A
<i>Podostroma alutaceum</i>	Yes ^a Forested areas	Terrestrial in coniferous and deciduous forests.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Pseudorhizina californica</i>	Yes ^a Forested areas or areas with down rotting wood or stumps	Well-rotted stumps or logs of coniferous trees and litter or soil rich in brown rotted wood. One site on the Siuslaw National Forest.	Assumed ^b	No Impact This species requires down wood or stumps to persist and this project does not propose to remove any existing down material.	N/A	N/A
<i>Ramaria rubribrunnescens</i>	Yes ^a Forested areas	Late successional Douglas-fir and western hemlock forests.	Assumed ^b	MIIH ^c	N/A	N/A
<i>Rhizopogon exiguus</i>	Yes ^a Forested areas	Mycorrhizal with Douglas fir and w. hemlock. Known from Marys Peak.	Assumed ^b	MIIH ^c	N/A	N/A

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

Recommended Mitigation Measures

If the Proposed Action is implemented, BPA would implement construction Best Management Practices (BMPs) to avoid or minimize impacts from the Project on vegetation resources. BPA will coordinate with public land managers to implement vegetation-related BMPs and mitigation measures to ensure they are consistent with their policies. The following BMPs would be implemented:

Construction-related BMPs:

- Prepare a site-specific Safety Plan before starting construction; specify how to manage hazardous materials, such as fuel and any toxic materials found in work sites; include a Fire Prevention and Suppression Plan and detail how to respond to emergency situations; keep the Safety Plan on site during construction and maintain and update, as needed
- Explain vegetation-related BMPs and mitigation measures to construction contractors and inspectors during a preconstruction meeting covering environmental requirements.
- Avoid locating staging areas within the Marys Peak Scenic Botanical Area, except in areas within the fence at the communications site, if possible.
- Employ an on-site monitor during construction to ensure all mitigation measures and BMPs are correctly implemented during construction to ensure construction equipment and personnel remain within designated construction areas.
- Restrict construction activities (including trenching work) to the minimum work area needed to work safely and effectively to limit disturbance of native vegetation communities.
- Cut or crush vegetation rather than blading or clearing areas that would remain vegetated.
- Limit vehicle speeds on unpaved roads and surfaces to 15 miles per hour, or other slow speed approved by USFS and BLM staff, to minimize the production of dust.
- Control dust during construction, using water trucks and other methods, as needed.
- Avoid spreading any excavated soils in high-quality plant communities and do not spread more than 10 feet from excavated areas; replace excavated soils in excavated holes, or if too much excavated material remains, remove from sensitive areas, or dispose of in an approved area, off-site.
- Avoid mixing subsoil and top soil as much as possible.
- Stockpile topsoil and subsoil separately in small, low piles for a short period of time, so that it remains biological active.
- Leave vegetative strips adjacent to any open trench areas to avoid or minimize erosion and sedimentation.

Revegetation-related BMPs:

- Develop and implement a Revegetation Plan to revegetate areas disturbed by construction, including soil preparation as necessary, using site-specific methods developed for use within the Marys Peak Scenic Botanical Area and approved by USFS and BLM staff.
- Monitor seed germination of seeded areas and growth of any planted materials until site stabilization is achieved (defined by an appropriate level of cover by native species or other appropriate objective); if vegetative cover is inadequate, implement adaptive management and reseed/replant to ensure adequate revegetation of disturbed soils.

Weed-related BMPs:

- Control noxious weeds in construction work areas manually, mechanically, and/or chemically as recommended for each species, prior to construction, if needed, with a focus on species with small, contained infestations to reduce the potential for widespread establishment and the need for long-term management.
- During construction, follow the Fire Prevention and Suppression Plan, including equipping all construction vehicles with basic fire-fighting equipment, including extinguishers and shovels to be used to prevent fires that could harm native vegetation and result in disturbed areas that could be vulnerable to colonization by noxious weeds.
- Before construction ensure that all hay, hay cubes, straw, and mulch possessed, used, or stored on public lands has proof of weed-free certification that meet or exceed North American Weed Management Association Weed-Free Forage certification standards.
- Clean equipment and vehicles at air or water-wash stations at a location approved by USFS and BLM, prior to entering Marys Peak Road and as soon as possible after leaving each work area to minimize the introduction and spread of weeds during construction.
- During construction, use local sources of rock, if rock is needed, and obtain road fill materials from noxious weed-free quarries.
- Conduct a post-construction noxious weed survey approximately 1 year after construction, of all areas disturbed by construction activities, to determine if there are new or expanded noxious weed infestations; implement appropriate control measures of noxious weed infestations.

Non Vascular BMP's

- Avoid removing trees when possible. Many trees are hosts to non-vascular species.
- Avoid removing snags, downed trees, and woody debris to minimize impacts to non-vascular species that grow on decaying wood or snags.
- During construction, minimize the area of land that will be trampled or compacted to avoid physical damage to soil dwelling non-vascular species.
- Avoid soil disturbance from foot/vehicle traffic in forested areas where fungal species are believed live. Avoid staging equipment in forested areas.

Additional BMPs:

In addition to the BMPs that BPA will incorporate into the project, the following recommendations would avoid or minimize or potential negative impacts before, during, and after construction.

Construction-related BMPs:

- Prior to the start of construction, provide training to all Project personnel on the cultural and ecological importance of the scenic, botanical, and recreational resources at Marys Peak.
- Avoid locating staging areas within the Marys Peak Scenic Botanical Area, except in areas within the fence at the communications site, or other areas that have experienced historic disturbance and are pre-approved by USFS.
- Clearly mark the rock garden areas as “No Work” areas on all design and construction plans. Highlight and discuss these areas during preconstruction meeting and on-going in the field during construction.

- Install protective fencing to prevent equipment and personnel from trampling rock garden areas during construction.
- In an effort to facilitate revegetation, avoid soil compacting activities such as back blading, track walking, etc.

Revegetation-related BMPs:

- If the communications site is relocated and the existing BPA communications site is decommissioned and the vegetation restored, allow the existing fence to remain in place for two to three years after restoration in order to protect restoration plants from disturbance during establishment and only remove the fence after approval by USFS staff.

Weed-related BMPs:

- Prior to the start of construction, provide training to all Project personnel on the ecological and economic importance of controlling invasive species and how they can be spread during construction.
- Clean equipment and vehicles at air or water-wash stations at a location approved by USFS and BLM, prior to entering Marys Peak Road and as soon as possible after leaving each work area to minimize the introduction and spread of weeds during construction. Arrange for inspection of cleaned equipment prior to entering Marys Peak Road.
- Install boot scrapers at point(s) of entry and ensure all construction workers and visitors clean boots before entering/leaving work area and after working in an area with known noxious weeds within project area.

Control of Noxious Weeds

State listed noxious weeds populations occur in low density in the Project area. Weeds in the fenced area can be hand pulled. There are a few occurrences of common St. Johnswort (*Hypericum perforatum*) near the fence that should be able to be eradicated quickly by hand.

Common St. Johnswort (*Hypericum perforatum*) and tansy ragwort (*Senecio jacobaea*) occur more frequently close to the parking lot. These populations appear to be in low enough densities to be hand pulled. However, noxious weeds should be monitored frequently. There may be a larger number of noxious weeds outside the survey area that can spread quickly into areas disturbed by Project construction. A USDA approved and appropriate herbicide that is approved by the Siuslaw National Forest may be applied according to the labeled instructions if noxious weeds begin to grow uncontrollably. Both noxious weed species found were in the vegetative state at the time of observation. It may be beneficial to control these species before they develop viable seed.

References

- Benton County Soil and Water Conservation District. 2017. Invasive Species: Weed Profiles, Corvallis, Oregon, at <http://bentonswcd.org/programs/invasive-species/weed-profiles/>. Web site accessed April 24 and 25, May 2 and 9, 2017.
- Camp, P. and J. G. Gamon, editors. 2011. Field Guide to Rare Plants of Washington. University of Washington Press, Seattle, Washington. 404 pages.
- Carex Working Group. 2017. Draft Key to Grasses of Oregon and Washington. Oregon State University, Corvallis, Oregon.
- 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. Portland, OR. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 195 p.
- Consortium of Pacific Northwest Herbaria. University of Washington Herbarium, Burke Museum of Natural History and Culture, and University of Washington, Seattle, WA, at <http://pnwherbaria.org>. Web site accessed April 22 and 26, May 2, 7, and 8, 2017.
- Flora of North America. 1993+. Flora of North America Editorial Committee, eds. New York and Oxford, at <http://efloras.org>. Web site accessed April 22 and 24, May 7 and May 8, 2017.
- Franklin, J. F. and C. T. Dyrness. 1973. Natural Vegetation of Oregon and Washington. Oregon State University Press. United States Forest Service. Page 11.
- Frenkel E, Hays P, McEvoy E. 2012. Marys Peak Scenic Botanical Area. Kalmiopsis Journal of the Native Plant Society of Oregon 19(1):21-24.
- Gilkey, H. M, and L. J. Dennis. 2001. Handbook of Northwestern Plants. Oregon State University Press, Corvallis, Oregon.
- Harpel, Judith A., and Helliwell, Richard. 2005. Conservation Assessment for *Schistostega pennata*. United States Department of Agriculture, Region 6 and the United States Department of the Interior Bureau of Land Management, Oregon and Washington. Available at: <https://www.fs.fed.us/r6/sfpnw/issssp/documents/planning-docs/ca-br-schistostega-pennata-2010-02.pdf>. Accessed on February 5, 2018.
- Harpel, Judith A., and Helliwell, Richard. 2005. Conservation Assessment for *Tetraphis geniculata*. United States Department of Agriculture, Region 6 and the United States Department of the Interior Bureau of Land Management, Oregon and Washington. Available at: <https://www.fs.fed.us/r6/sfpnw/issssp/documents/planning-docs/ca-br-schistostega-pennata-2010-02.pdf>. Accessed on February 5, 2018.
- Hays, P. R., Frenkel, R. E., and E. H. G. McEvoy. 2012. Marys Peak Scenic Botanical Area. Kalmiopsis. Volume 19, pages 21 to 35.
- Hitchcock, C. L., and Cronquist, A. 2001. Flora of the Pacific Northwest. University of Washington Press, Seattle, Washington.

- ISSSSP. 2005. USDI-USDA. Interagency Special Status and Sensitive Species Program. Conservation Assessments for 5 species of Lichens *Hypogymnia duplicata* (Ach.) Rass. *Pilophorus nigricaulis* Sato *Pseudocyphellaria rainierensis* Imshaug *Sticta arctica* Degel. *Tholurna dissimilis* (Norman) Norman. Available at <https://www.fs.fed.us/r6/sfpnw/issssp/documents2/ca-li-5-lichens-2013-04.pdf>. Accessed on February 5, 2018.
- ISSSSP. 2006. Inter-agency Special Status Sensitive Species Program. USDI-USDA. Species factsheets, Bryophytes. Unpublished report available at <https://www.fs.fed.us/r6/sfpnw/issssp/species-index/flora-bryophytes.shtml>. Accessed on January 25, 2018.
- ISSSSP 2007. Inter-agency Special Status Sensitive Species Program. USDI-USDA. 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. Unpublished report available on-line at <http://www.fs.fed.us/r6/sfpnw/issssp/>
- ISSSSP 2013. Inter-agency Special Status Sensitive Species Program. USDI-USDA. Species fact sheets. Unpublished report available on-line at <http://www.fs.fed.us/r6/sfpnw/issssp/>
- Knobel, E. 1980. Field Guide to the Grasses, Sedges, and Rushes of the United States. Dover Publications, Inc., Mineola, NY. 83 pages.
- Kozloff, E. N. 2005. Plants of Western Oregon, Washington, and British Columbia. Timber Press, Portland, Oregon.
- McEvoy, E. H. G, Fenkel, R. E, and P. R. Hays. 2005. Selected Comments on the Vegetation and Flora of Marys Peak, Benton County. Native Plant Society of Oregon, Corvallis Chapter.
- NatureServe. 2017. NatureServe Explorer: an online encyclopedia of life. Version 7.1. NatureServe, Arlington, Virginia. Available at <http://explorer.natureserve.org>. Accessed on January 25th, 2018.
- Norvell, L. and Ronald Exeter. 2008. Phaeocollybia of the Pacific Northwest North America. USDI BLM/OR/WA/gi-08/100-1792. Salem, OR.
- NRM TESP 2015. Natural Resources Information System. Ad hoc query of the TESP/Invasive database.
- NRM TESP 2017. Natural Resources Information System. Ad hoc query of the TESP/Invasive database.
- Oregon Department of Agriculture. Unknown date. Coast Range Fawn Lily (*Erythronium elegans*) Plant Profile. Oregon Department of Agriculture, Salem, Oregon, at <https://www.oregon.gov/ODA/shared/Documents/Publications/PlantConservation/ErythroniumElegansProfile.pdf>. Web site accessed 8 May, 2017.
- Oregon Department of Agriculture. 2017. Noxious Weed Policy and Classification System.
- Oregon Flora Project, the Oregon Plant Atlas. Oregon State University, Corvallis OR, at <http://oregonflora.org/atlas>. Website accessed April 24 and May 8, 2017.
- Pojar, J. and A. MacKinnon. 2006. Plants of the Pacific Northwest Coast: Washington, Oregon, British Columbia, and Alaska. Lone Pine Publishing, Renton, Washington.

Raphael K. Didham, Jason M. Tylianakis, Melissa A. Hutchison, Robert M. Ewers, Neil J. Gemmell, Are invasive species the drivers of ecological change? *Trends in Ecology & Evolution*, Volume 20, Issue 9, 2005, Pages 470-474, ISSN 0169-5347, <http://dx.doi.org/10.1016/j.tree.2005.07.006>.

Trappe, James M.; Molina, Randy; Luoma, Daniel L.; Cázares, Efren; Pilz, David; Smith, Jane E.; Castellano, Michael A.; Miller, Steven L.; Trappe, Matthew J. 2009. Diversity, ecology, and conservation of truffle fungi in forests of the Pacific Northwest. Gen. Tech. Rep. PNW-GTR-772. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 194 pp.

United States Department of Agriculture Forest Service. 1989. Management Direction for Marys Peak Scenic Botanical Special Interest Area. Alsea Ranger District, Siuslaw National Forest. Available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5436383.pdf. Retrieved from website June 26th, 2017.

United States Department of Agriculture Forest Service. 1990. Siuslaw National Forest: Land and Resource Management Plan. United States Forest Service, Pacific Northwest Region, Portland, Oregon.

United States Department of Agriculture Forest Service and United States Department of Interior Bureau of Land Management. 1994. Amendments to Forest Service and Bureau of Land Management Planning Documents within the Range of the Northern Spotted Owl. USDA Forest Service, Portland, Oregon and BLM, Moscow, Idaho.

United States Department of Agriculture Forest Service and United States Department of 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 Bureau of Land Management. Unknown Date. Management recommendations for *Pseudocyphellaria rainierensis*. Version 2.0. Available at: https://www.blm.gov/or/plans/surveyandmanage/MR/Lichens/PSRA_V2.pdf. Accessed on February 5, 2018.

United States Department of the Interior Bureau of Land Management. 1997. Management Recommendations for Survey and Manage: Fungi. Group4. Available at <https://www.blm.gov/or/plans/surveyandmanage/MR/Fungi/GRP04.htm>. Accessed on January 25th, 2018.

United States Department of Interior Bureau of Land Management and United States Department of Agriculture Forest Service. 2014. Interagency Special Status/Sensitive Species Program, Portland Oregon, at <https://www.fs.fed.us/r6/sfpnw/issssp/>.

United States Fish and Wildlife Service. 2003. Wolf – Western Great Lakes. What is the Difference between Endangered and Threatened? Available at <https://www.fws.gov/midwest/wolf/esastatus/e-vs-t.htm>. Accessed on June 27th, 2017.

Western Society of Weed Science. 2004. Weeds of the West. The Western Society of Weed Science, University of Wyoming, Jackson, Wyoming.

Wilson, B. L., Brainerd, R.E., Lytjen, D., Newhouse, B., and N. Otting. 2008. Field Guide to the Sedges of the Pacific Northwest. Oregon State University Press, Corvallis, Oregon.

Wisconsin Department of Natural Resources (DNR). 2011. Best Management Practices for Preventing the Spread of Invasive Species in Wetlands. Available at <http://dnr.wi.gov/topic/wetlands/documents/wetlandinvasivebmp.pdf> Retrieved from website June, 26th, 2017.

Attachment 1- Known and Suspected Special-Status Species Occurrences

Known occurrences of special-status plant species within 1 mile of Marys Peak BPA Communications Site Project area (data source: ORBIC). Species status/rank is designated by an ORBIC supported international system for ranking rare, threatened, and endangered species. Asterisks denote species not suspected or documented on the SNF's or BLM's lists, and crosses denote additional non-vascular species suspected to occur on the SNF and for which potential habitat is present or assumed within the Project area. An 'R' denotes USFS Regional Forester's Sensitive fungi species.

Scientific Name	Taxon	Species Status/Rank	Suitable Habitat	General Location within 1 mile radius of BPA Communications Site and Access Road
<i>Bridgeoporus nobilissimus</i> ^R	Fungus	ORBIC List 1 G3, S3	On true fir (<i>Abies</i> spp.) trees, snags and stumps particularly noble fir (<i>A. procera</i>).	Noble fir stand southwest of paved parking lot
<i>Chamonixia caespitosa</i> ^{† R}	Fungus	ORBIC List 2 G5, S1	Mycorrhizal with conifers. Known from Cape Perpetua and Cascade Head Experimental Forest.	Habitat present (forested areas)
<i>Chrysomphalina grossula</i>	Fungus	ORBIC List 3 G3G4	Gregarious to caespitose substrate on wet coniferous woody debris in forests or parks.	Access road, BPA Communications Site, surrounding area
<i>Cortinarius barlowensis</i> ^{† R}	Fungus	ORBIC List 2 G3,S2	Terrestrial in coastal to montane conifer forests.	Habitat present (forested areas)
<i>Cystangium idahoensis</i> ^R	Fungus	ORBIC List 1 G2G3, S1	Mycorrhizal with true fir above 3600 feet. Known on Marys Peak.	Vicinity of existing City of Corvallis Communications Site
<i>Elaphomyces subviscidus</i> [*]	Fungus	ORBIC List 3 G2G3, S1S2	Associated with lodgepole pine and mountain hemlock in high elevations.	Southeast of BPA Communications Site, downslope
<i>Gastrolactarius camphoratus</i> ^{† R}	Fungus	ORBIC List 1 G2, S2	Mycorrhizal with Douglas-fir and western hemlock. Known from Cummins Creek Area.	Habitat present (forested area)
<i>Melanogaster natsii</i> [*]	Fungus	ORBIC List 3	Western Washington to southern California. Associated with the Pinaceae family.	Much of the Project area (forested areas)
<i>Otidea smithii</i>	Fungus	ORBIC List 3 G2, S2	Exposed soil, duff, or moss under Douglas fir,	Much of the Project area (forested areas)

Scientific Name	Taxon	Species Status/Rank	Suitable Habitat	General Location within 1 mile radius of BPA Communications Site and Access Road
			western hemlock, and black cottonwood.	
<i>Phaeocollybia californica</i> ^R	Fungus	ORBIC List 1 G3, S3	Mycorrhizal with conifers. Known from Cascade Head Experimental Forest.	Northeast of BPA Communications Site outside of the perimeter fence.
<i>Phaeocollybia dissiliens</i> ^{†R}	Fungus	ORBIC List 3 G3, S3	Mycorrhizal with conifers. Endemic to the Oregon coast and Coast Range. Known from Marys Peak.	Habitat present (forested areas)
<i>Phaeocollybia gregaria</i> ^R	Fungus	ORBIC List 1 G1G2, S1S2	Mycorrhizal with Douglas-fir and Sitka spruce. Known from Cascade Head Experimental Forest.	Small area near road downslope of paved parking lot as well as small area southeast of BPA Communications Site
<i>Phaeocollybia oregonensis</i> ^{†R}	Fungus	ORBIC List 1 G2?, S2?	Terrestrial in conifer forest. Endemic to the Oregon Cascades and Coast Range.	Habitat present (forested areas)
<i>Phaeocollybia sipei</i> [*]	Fungus	ORBIC List 3 G3?, S3?	Association with the roots of noble fir, Douglas fir, and western hemlock.	Much of the Project area
<i>Phaeocollybia spadicea</i> [*]	Fungus	ORBIC List 4 G4, S3?	Moist old growth coastal forests. Ectomycorrhizal association with western hemlock, Sitka spruce, and Douglas fir.	Small area near road downslope of paved parking lot
<i>Podostroma alutaceum</i>	Fungus	G3G4, S2	Mature forests with abundant rotting wood. Found in the Pacific northwest, Norway, Denmark, Sweden, and Britain.	Small area, south and downslope of BPA Communications Site
<i>Pseudorhizina californica</i> ^{†R}	Fungus	ORBIC List 2 G4, S2	Well-rotted stumps or logs of coniferous trees and litter or soil rich in brown rotted wood. One site on the Siuslaw National Forest.	Habitat present (forested areas)

Scientific Name	Taxon	Species Status/Rank	Suitable Habitat	General Location within 1 mile radius of BPA Communications Site and Access Road
<i>Ramaria rubribrunnescens</i>	Fungus	ODA/ODFW: SE, ORBIC List 3 G2G3, S2?	Fruits in humus or soil and is associated with Pinaceae family.	Northwest of BPA Communications Site
<i>Rhizopogon exiguous</i> ^R	Fungus	ODA/ODFW: SE G2G3, S1S2	Mycorrhizal with Douglas fir and western hemlock Known from Marys Peak.	Much of southeastern portion of Project area
<i>Bryoria subcana</i> [†]	Lichen	ORBIC List 2 G3G4	In humid microsites on conifers of mature stands.	None
<i>Lobaria linita</i> [†]	Lichen	ORBIC List 2 G4G5 S2	Lower boles of conifers and moss covered rocks in cool microsites. Only coastal Oregon location near the summit of Mt. Hebo.	Habitat present (forested areas)
<i>Tholurna dissimilis</i> [†]	Lichen	ORBIC List 2 G4G5, S3	Epiphytic on exposed branches and twigs in humid alpine and sub-alpine habitats.	Habitat present (forested areas)
<i>Haplomitrium hookeri</i> [†]	Liverwort	ORBIC List 2 G4, S1	Pacific northwest on sandy outwash areas adjacent to coastal streams.	Habitat present
<i>Andreaea schofieldiana</i> [†]	Moss	ORBIC List 2 G2G3, S1	On igneous rock outcrops at middle to high elevation. Known from British Columbia to California.	Habitat present (rock garden/road/meadow)
<i>Bryum calobryoides</i> [†]	Moss	ORBIC List 2 G3, S2	Damp soil, rock ledges, and outcrops at middle to higher elevations.	Habitat present (rock garden/road/meadow)
<i>Encalypta brevicollis</i> [†]	Moss	ORBIC List 2 G4, S1	Igneous rock outcrops at mid-elevations subject to frequent fog. Known from across Canada and sites in the Siskiyou Mountains.	Habitat present (rock garden/meadow/road)
<i>Entosthodon fascicularis</i> [†]	Moss	ORBIC List 2 G4G5, S1	Seasonally wet soils below 3000 ft elevation.	None
<i>Grimmia anomala</i> [*]	Moss	G5, S2	Forms cushions on igneous or serpentine	Small area at edge of noble fir stand, east of

Scientific Name	Taxon	Species Status/Rank	Suitable Habitat	General Location within 1 mile radius of BPA Communications Site and Access Road
			rocks in shade or crevices of exposed rocks.	BPA Communications Site
<i>Tetraphis geniculata</i> [†]	Moss	ORBIC List 2 G3G5, S1	Older conifer forest, occurring on snags, logs and stumps.	Habitat present (forested areas)
<i>Poa laxiflora</i> *	Vascular plant	ORBIC List 4 G3G4, S3	Moist areas including riparian zones, bogs, seeps and springs. Tolerates partial to full shade and associates with western hemlock. Elevation ranges from 55 – 3800 feet.	Near edge of 1-mile buffer, west of BPA Communications Site

The Ranks “S” for state and “G” for global follow a 1-5 ranking system:

1 = Critically imperiled; 2 = Imperiled; 3 = Rare and uncommon, vulnerable; 4 = Not rare and apparently secure; 5 = Demonstrably widespread, abundant and secure

A “?” after a rank denotes an ORBIC probable rank:

ORBIC List 1 = Threatened or endangered throughout range

ORBIC List 2 = Threatened or endangered in Oregon but secure elsewhere

ORBIC List 3 = Review species, taxa for which more information is needed

ORBIC List 4 = Watch, taxa of conservation concern but are not currently threatened or endangered

Oregon Department of Agriculture/Oregon Department of Fish and Wildlife state designations are as follow: SC = state candidate; ST = state threatened; SE = state endangered

Attachment 2- U.S. Fish and Wildlife Service List

U.S. Fish & Wildlife Service

IPaC Trust Resources Report



NAME

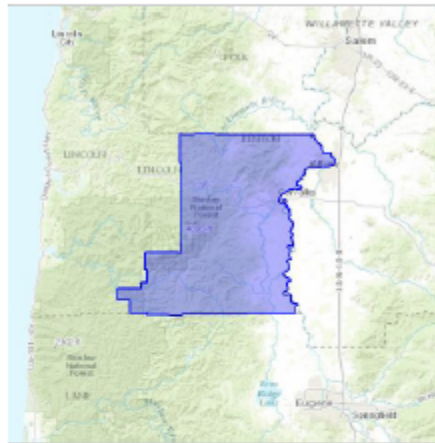
**Marys Peak BPA Communication Site
Project**

LOCATION

Benton County, Oregon

IPAC LINK

[https://ecos.fws.gov/ipac/project/
YIACA-XXKWR-HOREH-NXYM7-MTIS3M](https://ecos.fws.gov/ipac/project/YIACA-XXKWR-HOREH-NXYM7-MTIS3M)



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
(503) 231-6179

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the [Endangered Species Program](#) of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

[Section 7](#) of the Endangered Species Act requires Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Birds

Marbled Murrelet <i>Brachyramphus marmoratus</i>	Threatened
CRITICAL HABITAT There is final critical habitat designated for this species. http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B08C	
Northern Spotted Owl <i>Strix occidentalis caurina</i>	Threatened
CRITICAL HABITAT There is final critical habitat designated for this species. http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B08B	
Streaked Horned Lark <i>Eremophila alpestris strigata</i>	Threatened
CRITICAL HABITAT There is final critical habitat designated for this species. http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0B3	
Yellow-billed Cuckoo <i>Coccyzus americanus</i>	Threatened
CRITICAL HABITAT There is proposed critical habitat designated for this species. http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B06R	

Flowering Plants

Bradshaw's Desert-parsley <i>Lomatium bradshawii</i>	Endangered
CRITICAL HABITAT No critical habitat has been designated for this species. http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=Q1YN	
Golden Paintbrush <i>Castilleja levisecta</i>	Threatened
CRITICAL HABITAT No critical habitat has been designated for this species. http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=Q26U	
Kincaid's Lupine <i>Lupinus sulphureus</i> ssp. <i>kincaidii</i>	Threatened
CRITICAL HABITAT There is final critical habitat designated for this species. http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=Q35E	
Nelson's Checker-mallow <i>Sidalcea nelsoniana</i>	Threatened
CRITICAL HABITAT No critical habitat has been designated for this species. http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=Q21M	
Water Howellia <i>Howellia aquatilis</i>	Threatened
CRITICAL HABITAT No critical habitat has been designated for this species. http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=Q28M	
Willamette Daisy <i>Erigeron decumbens</i>	Endangered
CRITICAL HABITAT There is final critical habitat designated for this species. http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=Q2TF	

Insects

Fender's Blue Butterfly <i>Icaricia icarioides fenderi</i>	Endangered
CRITICAL HABITAT There is final critical habitat designated for this species. http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=I0IS	
Taylor's (=whulge) Checkerspot <i>Euphydryas editha taylori</i>	Endangered
CRITICAL HABITAT There is final critical habitat designated for this species. http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=I0TE	

Mammals

Red Tree Vole *Arborimus longicaudus*

Candidate

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=A0J3

Critical Habitats

This location overlaps all or part of the critical habitat for the following species:

Chinook Salmon *Oncorhynchus* (=Salmo) *tshawytscha*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=R06Q#crithab

Fender's Blue Butterfly *Icaricia icarioides fenderi*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=IQIG#crithab

Kincaid's Lupine *Lupinus sulphureus* ssp. *kincaidii*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=Q35F#crithab

Marbled Murrelet *Brachyramphus marmoratus*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=R08C#crithab

Northern Spotted Owl *Strix occidentalis caurina*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=R08R#crithab

Steelhead *Oncorhynchus* (=Salmo) *mykiss*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=R08Q#crithab

Streaked Horned Lark *Eremophila alpestris strigata*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=R0B3#crithab

Taylor's (=whulge) Checkerspot *Euphydryas editha taylori*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=IDT6#crithab

Willamette Daisy *Erigeron decumbens*

Final designated critical habitat

http://ecos.fws.gov/less_public/profile/speciesProfile.action?spcode=Q2TF#crithab

Migratory Birds

Birds are protected by the [Migratory Bird Treaty Act](#) and the [Bald and Golden Eagle Protection Act](#).

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.^[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
<http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Conservation measures for birds
<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Year-round bird occurrence data
<http://www.birdscanada.org/birdmon/default/datasummaries.jsp>

The following species of migratory birds could potentially be affected by activities in this location:

Bald Eagle <i>Haliaeetus leucocephalus</i>	Bird of conservation concern
Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008	
Burrowing Owl <i>Athene cucularia</i>	Bird of conservation concern
Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0NC	
Fox Sparrow <i>Passerella iliaca</i>	Bird of conservation concern
Seasons: Breeding, Wintering	
Lewis's Woodpecker <i>Melanerpes lewis</i>	Bird of conservation concern
Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HQ	

Loggerhead Shrike <i>Lanius ludovicianus</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY	Bird of conservation concern
Marbled Godwit <i>Limosa fedoa</i> Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JL	Bird of conservation concern
Olive-sided Flycatcher <i>Contopus cooperi</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0AN	Bird of conservation concern
Peregrine Falcon <i>Falco peregrinus</i> Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU	Bird of conservation concern
Purple Finch <i>Carpodacus purpureus</i> Season: Year-round	Bird of conservation concern
Rufous Hummingbird <i>selasphorus rufus</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0E1	Bird of conservation concern
Short-eared Owl <i>Asio flammeus</i> Season: Year-round http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD	Bird of conservation concern
Vesper Sparrow <i>Poocetes gramineus ssp. affinis</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F9	Bird of conservation concern
Western Grebe <i>aechmophorus occidentalis</i> Seasons: Breeding, Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0EA	Bird of conservation concern
Whimbrel <i>Numenius phaeopus</i> Season: Wintering http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0JN	Bird of conservation concern
Willow Flycatcher <i>Empidonax traillii</i> Season: Breeding http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6	Bird of conservation concern

Wildlife refuges and fish hatcheries

Any activity proposed on [National Wildlife Refuge](#) lands must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

This location overlaps all or part of the following National Wildlife Refuges:

William L. Finley National Wildlife Refuge

11,406.36 acres

PHONE (541) 757-7236

ADDRESS

C/o Willamette Valley Nwr Complex
26208 Finley Refuge Road
Corvallis, OR 97333

<http://www.fws.gov/refuges/profiles/index.cfm?id=13569>

Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercled worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

Attachment 3- Plant Species on the SNF and Salem District BLM Sensitive Plant List

SNF and BLM Sensitive plant species list obtained from ISSSSP query, and their potential to occur on SNF and Salem District BLM lands. Potential to occur defined as follows:

- Low = not on ORBIC, and has only one suspected with no documented occurrences on SNF or Salem District BLM lands
- Moderate = Occurs on ORBIC or has at least one documented occurrence on SNF or Salem District BLM lands
- High= occurs on ORBIC and has one documented and one suspected, or two documented occurrences on SNF or Salem District BLM lands

Oregon Department of Agriculture/Oregon Department of Fish and Wildlife state designations: SC = state candidate; ST = state threatened; SE = state endangered.

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
Lichens and Mosses				
<i>Anaptychia crinalis</i>	hanging fringe lichen	Moderate	None	None
<i>Andreaea nivalis</i>	Schofield's Andreaea moss	Moderate	None	None
<i>Andreaea schofieldiana</i>	moss	Low	None	None
<i>Anomobryum julaceum</i>	Anomobryum moss	Moderate	None	None
<i>Anthelia julacea</i>	alpine silverwort (liverwort)	Low	None	None
<i>Barbilophozia barbata</i>	liverwort	Moderate	None	None
<i>Blepharostoma arachnoideum</i>	liverwort	Low	None	None
<i>Bruchia bolanderi</i>	Bolander's pygmy moss (Bolander's candle moss)	Low	None	None
<i>Bryoria bicolor</i>	lichen	Moderate	None	None
<i>Bryoria pseudocapillaris</i> (formerly <i>B. spiralifera</i>)	horse hair lichen	Moderate	None	None
<i>Bryoria subcana</i>	lichen	Moderate	None	None
<i>Bryum calobryoides</i>	moss	Low	None	SC
<i>Buellia oidalea</i>	disc lichen	Low	None	None
<i>Calicium adpersum</i>	lichen	Low	None	None
<i>Calicium quercinum</i>	lichen	Low	None	None
<i>Caloplaca stantonii</i>	Stanton's orange lichen	Low	None	None
<i>Calypogeia sphagnicola</i>	liverwort	Low	None	None
<i>Campylopus schmidii</i>	moss	Moderate	None	None
<i>Campylopus subulatus</i>	awl-leaved swan-neck moss	Moderate	None	None
<i>Cephaloziella spinigera</i>	liverwort	Low	None	None
<i>Cladidium bolanderi</i>	lichen	Moderate	None	None
<i>Cynodontium jenneri</i>	Jenner's dog-tooth moss	Moderate	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Encalypta brevicollis</i>	extinguisher moss	Moderate	None	None
<i>Encalypta brevipes</i>	moss	Moderate	None	None
<i>Entosthodon fascicularis</i>	moss	Low	None	None
<i>Ephebe solida</i>	lichen	Moderate	None	None
<i>Ephemerum serratum</i>	serrated earth-moss	Low	None	None
<i>Fissidens fontanus</i>	moss	Low	None	None
<i>Grimmia anomala</i>	Grimmia dry rock moss	Moderate	None	None
<i>Grimmia lisae</i>	Flett's dry rock moss	Moderate	None	None
<i>Gymnomitrium concinnatum</i>	liverwort	Low	None	None
<i>Haplomitrium hookeri</i>	liverwort	Moderate	None	None
<i>Herbertus aduncus</i> ssp. <i>aduncus</i>	liverwort	Low	None	None
<i>Herbertus dicranus</i>	Pacific scissorleaf liverwort	Low	None	None
<i>Heterodermia japonica</i>	Japanese centipede lichen	Low	None	None
<i>Heterodermia leucomelos</i>	chin strap lichen	Moderate	None	None
<i>Heterodermia sitchensis</i>	seaside centipede (Lichen)	Low	None	None
<i>Hygrobiella laxifolia</i>	liverwort	Low	None	None
<i>Hypogymnia pulverata</i>	tube lichen	Low	None	None
<i>Hypogymnia subphysodes</i>	Austral bone lichen	Low	None	None
<i>Hypotrachyna riparia</i>	riparian loop lichen	Low	None	None
<i>Iwatsukiella leucotricha</i>	moss	Low	None	None
<i>Kurzia makinoana</i>	liverwort	Low	None	None
<i>Lecanora caesiorubella</i> ssp. <i>merrillii</i>	Merrill's rim lichen	Moderate	None	None
<i>Leioderma solediatum</i>	lichen	Moderate	None	None
<i>Leptogium burnetiae</i>	Burnet's skin lichen	Low	None	None
<i>Leptogium cyanescens</i>	lichen	Moderate	None	None
<i>Leptogium platynum</i>	skin lichen	Moderate	None	None
<i>Limbella fryei</i>	moss	Low	None	None
<i>Lobaria linita</i>	lichen	Moderate	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Lophozia gillmanii</i>	Gillman's pawwort (liverwort)	Low	None	None
<i>Lophozia laxa</i>	stream ladderwort	Moderate	None	None
<i>Marsupella emarginata</i> var. <i>aquatica</i>	(robust rustwort; liverwort)	Low	None	None
<i>Melanelia commixta</i>	lichen	Low	None	None
<i>Metzgeria violacea</i>	liverwort	Moderate	None	None
<i>Microcalicium arenarium</i>	rock broom (sandwort microcalicium, lichen)	Low	None	None
<i>Micromitrium synoicum</i>	micromitrium moss	Low	None	None
<i>Niebla cephalota</i>	lichen	Moderate	None	None
<i>Ochrolechia subplicans</i> ssp. <i>subplicans</i>	crabseye lichen	Moderate	None	None
<i>Pannaria rubiginella</i>	lichen	Moderate	None	None
<i>Pannaria rubiginosa</i>	Brown-eyed shingle Lichen	Low	None	None
<i>Physcomitrella patens</i>	physcomitrella moss	Low	None	None
<i>Physcomitrium immersum</i>	immersed bladder-moss	Low	None	None
<i>Pilophorus nigricaulis</i>	lichen	Moderate	None	None
<i>Plagiochila semidecurrrens</i> var. <i>alaskana</i>	liverwort	Low	None	None
<i>Plagiothecium cavifolium</i>	moss	Low	None	None
<i>Pohlia bolanderi</i>	Bolander's thread-moss	Low	None	None
<i>Pohlia ludwigii</i>	Ludwig's thread-moss	Low	None	None
<i>Polytrichastrum sexangulare</i> var. <i>sexangulare</i>	northern haircup (moss)	Low	None	None
<i>Polytrichum strictum</i>	moss	Low	None	None
<i>Porella vernicosa</i> ssp. <i>fauriei</i>	Pacific scalemoss (liverwort)	Low	None	None
<i>Preissia quadrata</i>	blister ribbon (narrow mushroom-headed liverwort)	Low	None	None
<i>Racomitrium ryszardii</i>	moss	Low	None	None
<i>Radula brunnea</i>	brown flatwort (liverwort)	Moderate	None	None
<i>Ramalina pollinaria</i>	lichen	Low	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Rhytidiadelphus subpinnatus</i>	moss	Low	None	None
<i>Rhytidium rugosum</i>	crumpled-leaf moss	Moderate	None	ST
<i>Rosulabryum gemmascens</i>	moss	Low	None	None
<i>Scapania gymnostomophila</i>	liverwort	Low	None	SC
<i>Schaereria dolodes</i>	tricky lecidea (lichen)	Low	None	None
<i>Sclerophora peronella</i>	lichen	Moderate	None	None
<i>Scouleria marginata</i>	moss	Low	None	None
<i>Sigridea californica</i>	California dirina (lichen)	Low	None	None
<i>Sphaerocarpos hians</i>	liverwort	Low	None	ST
<i>Sphagnum oregonense</i>	moss	Low	None	None
<i>Stereocaulon spathuliferum</i>	chalk foam (snow lichen)	Low	None	None
<i>Sticta arctica</i>	lichen	Moderate	None	None
<i>Sticta weigeli</i>	lichen	Low	None	ST
<i>Teloschistes flavicans</i>	lichen	Moderate	None	None
<i>Tetraphis geniculata</i>	moss	Low	None	None
<i>Thamnobryum neckeroides</i>	moss	Moderate	None	None
<i>Thelomma mammosum</i>	rock nipple lichen (doll's eye)	Low	None	None
<i>Tholurna dissimilis</i>	lichen	Low	None	None
<i>Tortella fragilis</i>	moss	Low	None	None
<i>Trichostomum tenuirostre</i> var. <i>tenuirostre</i>	moss	Low	None	None
<i>Triquetrella californica</i>	three-ranked knob moss	Low	None	ST
<i>Tritomaria quinquedentata</i>	liverwort	Low	None	None
<i>Umbilicaria rigida</i>	rigid naval lichen	Low	None	ST
<i>Usnea lambii</i>	zebra beard (banded beard, lichen)	Low	None	None
<i>Usnea nidulans</i>	lichen	Moderate	None	None
Fungi				
<i>Acanthophysium farlowii</i>	fungus	Moderate	None	None
<i>Albatrellus avellaneus</i>	fungus	Moderate	None	None
<i>Albatrellus caeruleoporus</i>	fungus	Low	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Albatrellus dispansus</i>	fungus	Low	None	None
<i>Albatrellus skamanius</i>	fungus	Low	None	None
<i>Amanita novinupta</i>	fungus	Moderate	None	None
<i>Balsamia nigrans</i>	fungus	Low	None	None
<i>Boletus regius</i>	fungus	Low	None	None
<i>Brauniellula albipes</i>	fungus	Low	None	None
<i>Bridgeoporus nobilissimus</i>	giant polypore fungus	High	None	None
<i>Chamonixia caespitosa</i>	fungus	High	None	None
<i>Choiromyces alveolatus</i>	fungus	Low	None	None
<i>Chrysomphalina grossula</i>	fungus	High	None	None
<i>Clavariadelphus subfastigiatus</i>	fungus	Low	None	None
<i>Clavulina castaneopes</i> var. <i>lignicola</i>	fungus	Low	None	None
<i>Clitocybe subditopoda</i>	fungus	Moderate	None	None
<i>Conocybe subnuda</i>	fungus	Low	None	None
<i>Cortinarius barlowensis</i>	fungus	Low	None	None
<i>Cortinarius cyanites</i>	fungus	Moderate	None	None
<i>Cortinarius depauperatus</i>	fungus	Moderate	None	None
<i>Cortinarius pavelekii</i>	fungus	Low	None	None
<i>Cystangium idahoensis</i> (=Martellia idahoensis)	fungus	High	None	None
<i>Dendrocollybia racemosa</i>	fungus	Low	None	None
<i>Elaphomyces asperulus</i>	fungus	Moderate	None	None
<i>Elaphomyces decipiens</i>	fungus	Low	None	None
<i>Elaphomyces reticulatus</i>	fungus	Low	None	None
<i>Elaphomyces subviscidus</i>	fungus	Low	None	None
<i>Endogone oregonensis</i>	fungus	Moderate	None	None
<i>Fevansia aurantiaca</i>	fungus	Low	None	None
<i>Gastroboletus imbellus</i>	fungus	Low	None	None
<i>Gastroboletus ruber</i>	fungus	Moderate	None	None
<i>Gastrolactarius camphoratus</i>	fungus	High	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Gastrolactarius crassus</i>	fungus	Low	None	None
<i>Genea compacta</i>	fungus	Low	None	None
<i>Glomus pubescens</i>	fungus	Low	None	None
<i>Gymnomyces nondistincta</i>	fungus	Low	None	None
<i>Hebeloma occidentale</i>	fungus	Low	None	None
<i>Hydnotrya inordinata</i>	fungus	Low	None	None
<i>Hydropus marginellus</i>	fungus	Moderate	None	None
<i>Hygrophorus albicarneus</i>	fungus	Low	None	None
<i>Hygrophorus albiflavus</i>	fungus	Low	None	None
<i>Leptonia caesiocincta</i>	fungus	Low	None	None
<i>Leptonia subeuchroa</i>	fungus	Low	None	None
<i>Leptonia violaceonigra</i>	fungus	Low	None	None
<i>Leucogaster odoratus</i>	fungus	Low	None	None
<i>Lyophyllum acutipes</i>	fungus	Low	None	None
<i>Lyophyllum furfurellum</i>	fungus	Low	None	None
<i>Lyophyllum lubricum</i>	fungus	Low	None	None
<i>Lyophyllum pallidum</i>	fungus	Low	None	None
<i>Lyophyllum solidipes</i>	fungus	Low	None	None
<i>Macowanites chlorinosmus</i>	fungus	Low	None	None
<i>Martellia medlockii</i>	fungus	Low	None	None
<i>Melanogaster natsii</i>	fungus	Moderate	None	None
<i>Mycena gaultheri</i>	fungus	Low	None	None
<i>Mycena quinaultensis</i>	fungus	Low	None	None
<i>Mycena tenax</i>	fungus	High	None	None
<i>Mythicomycetes corneipes</i>	fungus	Low	None	None
<i>Octaviania macrospora</i>	fungus	Low	None	None
<i>Omphalina isabellina</i>	fungus	Low	None	None
<i>Otidea smithii</i>	fungus	High	None	None
<i>Phaeocollybia californica</i>	fungus	High	None	None
<i>Phaeocollybia dissiliens</i>	fungus	High	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Phaeocollybia gregaria</i>	fungus	High	None	None
<i>Phaeocollybia lilacifolia</i>	fungus	High	None	None
<i>Phaeocollybia oregonensis</i>	fungus	High	None	None
<i>Phaeocollybia pseudofestiva</i>	fungus	High	None	None
<i>Phaeocollybia radicata</i>	fungus	Moderate	None	None
<i>Phaeocollybia sipei</i>	fungus	Moderate	None	None
<i>Phaeocollybia spadicea</i>	fungus	Moderate	None	None
<i>Podostroma alutaceum</i>	fungus	Moderate	None	None
<i>Pseudaleuria quinaultiana</i>	fungus	Moderate	None	SE
<i>Pseudorhizina californica</i>	fungus	Low	None	SC
<i>Radiigera bushnellii</i>	fungus	Low	None	None
<i>Ramaria abietina</i>	fungus	Moderate	None	SC
<i>Ramaria amyloidea</i>	fungus	Moderate	None	None
<i>Ramaria conjunctipes</i> var. <i>sparsiramosa</i>	fungus	Moderate	None	None
<i>Ramaria gelatiniaurantia</i>	fungus	Moderate	None	None
<i>Ramaria gracilis</i>	fungus	Low	None	None
<i>Ramaria largentii</i>	fungus	Low	None	None
<i>Ramaria maculatipes</i>	fungus	Moderate	None	None
<i>Ramaria rainierensis</i>	fungus	Low	None	None
<i>Ramaria rubella</i> forma <i>blanda</i>	fungus	Low	None	SE
<i>Ramaria rubribrunnescens</i>	fungus	High	None	SE
<i>Ramaria suecica</i>	fungus	Moderate	None	None
<i>Rhizopogon abietis</i>	fungus	Low	None	None
<i>Rhizopogon alexsmithii</i>	fungus	Low	None	SC
<i>Rhizopogon atroviolaceus</i>	fungus	Low	None	None
<i>Rhizopogon brunneiniger</i>	fungus	Low	None	SE
<i>Rhizopogon clavitisporus</i>	fungus	Low	None	None
<i>Rhizopogon ellipsosporus</i>	fungus	Low	None	SC
<i>Rhizopogon exiguus</i>	fungus	High	None	SE

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Rhizopogon inquinatus</i>	fungus	Low	None	None
<i>Rhizopogon masoniae</i>	fungus	Low	None	None
<i>Rhizopogon rogersii</i>	fungus	Low	None	None
<i>Rhizopogon semireticulatus</i>	fungus	Low	None	None
<i>Rhizopogon subcinnamomeus</i>	fungus	Low	None	SE
<i>Rhizopogon subradicatus</i>	fungus	Low	None	SC
<i>Rickenella swartzii</i>	fungus	High	None	None
<i>Sarcodon fuscoindicus</i>	fungus	High	None	None
<i>Squamanita paradoxa</i>	fungus	Low	None	None
<i>Stagnicola perplexa</i>	fungus	Low	None	SC
<i>Stephensia bynumii</i>	fungus	Low	None	None
<i>Stropharia albivelata</i>	fungus	Moderate	None	None
<i>Tricholomopsis fulvescens</i>	fungus	Low	None	None
<i>Tuber asa</i>	fungus	High	None	SC
<i>Tuber pacificum</i>	fungus	Moderate	None	ST
<i>Urnula craterium</i>	fungus	Low	None	SC
<i>Vibrissea truncorum</i>	fungus	Moderate	None	None

Vascular Plants

<i>Abronia umbellata</i> ssp. <i>breviflora</i>	pink sand-verbena	Moderate	None	SE
<i>Agrostis howellii</i>	Howell's bentgrass	Low	None	SC
<i>Anemone oregana</i> var. <i>felix</i>	bog anemone	Low	None	None
<i>Artemisia pycnocephala</i>	coastal sagewort	Low	None	None
<i>Atriplex gmelinii</i>	Gmelin's saltbush	Low	None	None
<i>Brodiaea terrestris</i>	dwarf brodiaea	Low	None	None
<i>Calamagrostis breweri</i>	Brewer's reedgrass	Low	None	None
<i>Cardamine pattersonii</i>	Saddle Mountain bittercress	Moderate	None	SC
<i>Carex brevicaulis</i>	short stemmed sedge	Low	None	None
<i>Carex comosa</i>	bristly sedge (bottlebrush sedge)	Low	None	None
<i>Carex livida</i>	pale sedge	Low	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Carex macrocephala</i>	bighead sedge	Moderate	None	None
<i>Carex macrochaeta</i>	large-awn sedge	Low	None	None
<i>Carex pluriflora</i>	many-flowered sedge	Low	None	None
<i>Castilleja chambersii</i>	Chamber's paintbrush	Low	None	None
<i>Castilleja levisecta</i>	golden paintbrush	Low	FT	SE
<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	Pt. Reyes bird's-beak	Moderate	None	SE
<i>Cicendia quadrangularis</i>	timwort	Low	None	None
<i>Coptis trifolia</i>	three-leaf goldthread	Low	None	None
<i>Corydalis aquae-gelidae</i>	cold-water corydalis	Moderate	None	SC
<i>Cyperus acuminatus</i>	short-pointed cyperus	Low	None	None
<i>Delphinium leucophaeum</i>	white rock larkspur	Low	None	SE
<i>Delphinium nuttallii</i>	Nuttall's larkspur	Low	None	None
<i>Delphinium oregonum</i>	Willamette Valley larkspur	Low	None	SC
<i>Delphinium pavonaceum</i>	peacock larkspur	Low	None	SE
<i>Diplacus tricolor</i> (<i>Mimulus tricolor</i>)	three-colored monkeyflower	Low	None	None
<i>Dodecatheon austrofrigidum</i>	frigid shootingstar	Moderate	None	None
<i>Douglasia laevigata</i>	smooth-leaved douglasia	Low	None	None
<i>Elatine brachysperma</i>	short seeded waterwort	Low	None	None
<i>Erigeron decumbens</i> var. <i>decumbens</i>	Willamette Valley daisy	Low	FE	SE
<i>Erigeron howellii</i>	Howell's daisy	Low	None	SC
<i>Erigeron peregrinus</i> var. <i>peregrinus</i>	wandering daisy	Low	None	None
<i>Eriophorum chamissonis</i>	russet cotton-grass	Low	None	None
<i>Erythronium elegans</i>	Coast Range fawn-lily	High	None	ST
<i>Eucephalus gormanii</i>	Gorman's aster	Moderate	None	None
<i>Filipendula occidentalis</i>	queen-of-the-forest	Low	None	SC
<i>Fritillaria camschatcensis</i>	black lily	Moderate	None	None
<i>Geum triflorum</i> var. <i>campanulatum</i>	western red avens	Low	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Gilia millefoliata</i>	seaside gilia	Low	None	None
<i>Horkelia congesta</i> ssp. <i>congesta</i>	shaggy horkelia	Low	None	SC
<i>Howellia aquatilis</i>	water howellia	Low	FT	None
<i>Huperzia miyoshiana</i>	Pacific fir-moss	Low	None	None
<i>Hydrocotyle verticillata</i>	whorled marsh-pennywort	Moderate	None	None
<i>Impatiens ecornuta</i>	spurless jewelweed (Spurless touch-me-not)	Low	None	None
<i>Iris tenax</i> var. <i>gormanii</i>	Gorman's iris	Moderate	None	None
<i>Juncus kelloggii</i>	Kellogg's rush	Low	None	None
<i>Lathyrus holochlorus</i>	thin-leaved peavine	Moderate	None	None
<i>Lewisia columbiana</i> var. <i>columbiana</i>	Columbia lewisia	Low	None	None
<i>Lewisia columbiana</i> var. <i>rupicola</i>	rosy lewisia	Low	None	None
<i>Lilium occidentale</i>	western lily	Low	FE	SE
<i>Limonium californicum</i>	western marsh-rosemary	Low	None	None
<i>Lipocarpha micrantha</i>	small-flowered lipocarpha	Low	None	None
<i>Lomatium bradshawii</i>	Bradshaw's desert parsley	Low	FE	SE
<i>Lupinus oreganus</i>	Kincaid's lupine	Low	FT	ST
<i>Lycopodiella inundata</i>	bog club-moss	Moderate	None	None
<i>Lycopodium complanatum</i>	ground cedar	Low	None	None
<i>Micranthes hitchcockiana</i>	Saddle Mt. saxifrage	Low	None	SC
<i>Microseris bigelovii</i>	coast microseris	Low	None	None
<i>Myrica gale</i>	sweet bayberry	Low	None	None
<i>Ophioglossum pusillum</i>	Adder's-tongue	Moderate	None	None
<i>Packera flettii</i>	Flett's groundsel	Low	None	None
<i>Phacelia argentea</i>	silvery phacelia	Low	None	ST
<i>Plantago macrocarpa</i>	North Pacific plantain (Alaska plantain)	Low	None	None
<i>Poa laxiflora</i>	loose-flowered bluegrass	High	None	None

Scientific Name	Common Name	Potential to Occur on SNF and Salem District BLM Lands	Federal ESA Status	ODA/ODFW Status
<i>Poa unilateralis</i> ssp. <i>pachypholis</i>	ocean bluff bluegrass	Low	None	None
<i>Polystichum californicum</i>	California sword-fern	Low	None	None
<i>Pyrocoma racemosa</i> var. <i>racemosa</i>	racemose pyrocoma	Low	None	None
<i>Rhynchospora alba</i>	white beakrush	Moderate	None	None
<i>Romanzoffia thompsonii</i>	Thompson's mistmaiden	Low	None	None
<i>Rotala ramosior</i>	lowland toothcup	Low	None	None
<i>Scheuchzeria palustris</i> ssp. <i>americana</i>	Scheuchzeria	Low	None	None
<i>Schoenoplectus subterminalis</i>	water clubrush	Moderate	None	None
<i>Scirpus pendulus</i>	drooping bulrush	Low	None	None
<i>Sericocarpus rigidus</i>	white-topped aster	Low	None	ST
<i>Sidalcea hendersonii</i>	Henderson's sidalcea (checkermallow)	Low	None	None
<i>Sidalcea hirtipes</i>	bristly-stemmed sidalcea	Moderate	None	SC
<i>Sidalcea nelsoniana</i>	Nelson's checker-mallow	Moderate	FT	ST
<i>Silene douglasii</i> var. <i>oraria</i>	Cascade Head catchfly	Low	None	ST
<i>Sisyrinchium sarmentosum</i>	pale blue-eyed grass	Low	None	SC
<i>Stellaria humifusa</i>	creeping chickweed	Low	None	None
<i>Streptopus streptopoides</i>	Kruhsea	Low	None	None
<i>Sullivantia oregana</i>	Oregon sullivantia	Low	None	SC
<i>Taraxia ovata</i>	golden eggs (Suncup)	Low	None	None
<i>Utricularia gibba</i>	humped bladderwort	Moderate	None	None
<i>Utricularia minor</i>	lesser bladderwort	Low	None	None
<i>Utricularia ochroleuca</i>	northern bladderwort	Low	None	None
<i>Wolffia borealis</i>	dotted water-meal	Low	None	None
<i>Wolffia columbiana</i>	Columbia water-meal	Low	None	None

Attachment 4- Target Survey Special-Status Species List

USFS and BLM Sensitive plant species list returned from ISSSSP query, and their potential to occur at the Marys Peak BPA Communications Site Project area. Potential to occur within Project area designations are as follow: Low = not on ORBIC, and has only one suspected with no documented occurrences on SNF or BLM lands; Moderate = Occurs on ORBIC or has at least one documented occurrence; High= occurs on ORBIC and has one documented and one suspected, or two documented occurrences on SNF and BLM lands. Oregon Department of Agriculture/Oregon Department of Fish and Wildlife state designations are as follow: SC = state candidate; ST = state threatened; SE = state endangered.

Scientific Name	Common Name	Potential to Occur in the Project Area	Federal ESA Status	ODA/ODFW Status
Fungi				
<i>Bridgeoporus nobilissimus</i>	noble polypore	High	None	None
<i>Chamonixia caespitosa</i>	fungus	High	None	None
<i>Chrysomphalina grossula</i>	fungus	High	None	None
<i>Cortinarius barlowensis</i>	fungus	Moderate	None	None
<i>Cystangium idahoensis</i> (=Martellia idahoensis)	fungus	High	None	None
<i>Elaphomyces subviscidus</i>	fungus	Low	None	None
<i>Gastrolactarius camphoratus</i>	fungus	High	None	None
<i>Melanogaster natsii</i>	fungus	Low	None	None
<i>Mycena tenax</i>	fungus	High	None	None
<i>Otidea smithii</i>	fungus	High	None	None
<i>Phaeocollybia californica</i>	fungus	High	None	None
<i>Phaeocollybia dissiliens</i>	fungus	High	None	None
<i>Phaeocollybia lilacifolia</i>	fungus	High	None	None
<i>Phaeocollybia gregaria</i>	fungus	High	None	None
<i>Phaeocollybia oregonensis</i>	fungus	High	None	None
<i>Phaeocollybia pseudofestiva</i>	fungus	High	None	None
<i>Phaeocollybia sipei</i>	fungus	Low	None	None
<i>Phaeocollybia spadicea</i>	fungus	Low	None	None
<i>Podostroma alutaceum</i>	fungus	Low	None	None
<i>Pseudorhizina californica</i>	fungus	Low	None	None
<i>Ramaria rubribrunnescens</i>	fungus	High	None	SE
<i>Rhizopogon exiguus</i>	fungus	High	None	SE
<i>Rickenella swartzii</i>	fungus	High	None	None

Scientific Name	Common Name	Potential to Occur in the Project Area	Federal ESA Status	ODA/ODFW Status
<i>Sarcodon fuscoindicus</i>	fungus	High	None	None
<i>Tuber asa</i>	fungus	High	None	SC

Bryophytes

<i>Andreaea schofieldiana</i>	moss	Low	None	None
<i>Bryum calobryoides</i>	Bryum moss	Low	None	None
<i>Encalypta brevicollis</i>	extinguisher moss	Low	None	None
<i>Entosthodon fascicularis</i>	moss	Low	None	None
<i>Grimmia anomala</i>	moss	Low	None	None
<i>Haplomitrium hookerii</i>	liverwort	Moderate	None	None
<i>Schistostega pennata</i>	schistostega moss	Low	None	None
<i>Tetraphis geniculata</i>	tetraphis moss	Low	None	None

Lichen

<i>Bryoria subcana</i>	lichen	Moderate	None	None
<i>Hypogymnia duplicate</i>	lichen	Low	None	None
<i>Lobaria linita</i>	lung lichen	Low	None	None
<i>Lobaria linita var. tenuoir</i>	lichen	Low	None	None
<i>Pseudocyphellaria rainierensis</i>	lichen	Low	None	None
<i>Tholurna dissimilis</i>	urn lichen	Low	None	None

Vascular Plants

<i>Castilleja levisecta</i>	golden paintbrush	Low	Threatened	SE
<i>Erigeron decumbens</i>	Willamette daisy	Low	Endangered	SE
<i>Erythronium elegans</i>	Coast Range fawn-lily	High	None	ST
<i>Lomatium bradshawii</i>	Bradshaw's desert-parsley	Low	Endangered	SE
<i>Lupinus oregonus</i>	Kincaid's lupine	Low	Threatened	ST
<i>Poa laxiflora</i>	loose-flowered bluegrass	High	None	None
<i>Sidalcea nesoniana</i>	Nelson's checker-mallow	Low	Threatened	ST

Attachment 5- Target Noxious Weed Species

Scientific Name	Common Name	Designation*
<i>Abutilon theophrasti</i>	velvetleaf	B
<i>Acaena novae-zelandiae</i>	biddy-biddy	B
<i>Aegilops triuncialis</i>	barbed goatgrass	A, T
<i>Alliaria petiolata</i>	garlic mustard	B, T
<i>Amorpha fruticosa</i>	indigo bush	B
<i>Brachypodium sylvaticum</i>	false brome	B
<i>Carduus pycnocephalus</i>	Italian thistle	B
<i>Carthamus lanatus</i>	woolly distaff thistle	A, T
<i>Centaurea calcitrapa</i>	purple starthistle	A, T
<i>Centaurea iberica</i>	Iberian starthistle	A, T
<i>Centaurea pratensis</i>	meadow knapweed	B
<i>Centaurea solstitialis</i>	yellow starthistle	B
<i>Centaurea stoebe (C. maculosa)</i>	spotted knapweed	B, T
<i>Cirsium arvense</i>	Canada thistle	B
<i>Cirsium vulgare</i>	bull thistle	B
<i>Clematis vitalba</i>	old man's beard	B
<i>Conium maculatum</i>	poison hemlock	B
<i>Convolvulus arvensis</i>	field bindweed	B, T
<i>Cortaderia jubata</i>	Jubata grass	B
<i>Cuscuta</i> spp.	dodder	B
<i>Cyperus rotundus</i>	purple nutsedge	A
<i>Cytisus scoparius</i>	Scotch broom	B
<i>Cytisus striatus</i>	Portuguese broom	B, T
<i>Daphne laureola</i>	spurge laurel	B
<i>Dipsacus laciniatus</i>	cutleaf teasel	B
<i>Echium plantagineum</i>	Paterson's curse	A, T
<i>Erica lusitanica</i>	Spanish heath	B
<i>Euphorbia esula</i>	leafy spurge	B, T
<i>Euphorbia oblongata</i>	oblong spurge	A, T
<i>Fallopia japonica (Polygonum)</i>	Japanese knotweed	B
<i>Fallopia sachalinensis (Polygonum)</i>	giant knotweed	B
<i>Galega officinalis</i>	goatsrue	A, T
<i>Genista monspessulana</i>	french broom	B
<i>Hedera helix</i>	English ivy	B
<i>Heracleum mantegazzianum</i>	giant hogweed	A, T
<i>Hypericum perforatum</i>	St. Johnswort	B
<i>Impatiens glandulifera</i>	policeman's helmet	B
<i>Isatis tinctoria</i>	Dyer's woad	B

<i>Lamium galeobdolon</i>	yellow archangel	B
<i>Lathyrus latifolius</i>	perennial peavine	B
<i>Linaria dalmatica</i>	dalmatian toadflax	B, T
<i>Lythrum salicaria</i>	purple loosestrife	B
<i>Onopordum acanthium</i>	Scotch thistle	B
<i>Phragmites australis</i> ssp. <i>australis</i>	common reed	B
<i>Pilosella aurantiacum</i> (<i>Hieracium</i>)	orange hawkweed	A, T
<i>Pilosella caespitosum</i> (<i>Hieracium</i>)	meadow hawkweed	B, T
<i>Pilosella pilosella</i> (<i>Hieracium</i>)	mouse-ear hawkweed	A, T
<i>Pilosella piloselloides</i> (<i>Hieracium</i>)	king-devil hawkweed	A
<i>Polygonum polystachyum</i>	Himalayan knotweed	B
<i>Potentilla recta</i>	sulfur cinquefoil	B
<i>Pueraria lobata</i>	kudzu	A, T
<i>Ranunculus ficaria</i>	lesser celandine	B
<i>Rubus armeniacus</i> (<i>R. procerus</i> , <i>R. discolor</i>)	Armenian (Himalayan) blackberry	B
<i>Senecio jacobaea</i> (<i>Jacobaea vulgaris</i>)	tansy ragwort	B, T
<i>Taeniatherum caput-medusae</i>	Medusahead rye	B
<i>Trapa natans</i>	European water chestnut	A
<i>Tribulus terrestris</i>	puncturevine	B
<i>Tussilago farfara</i>	coltsfoot	A
<i>Ulex europaeus</i>	gorse	B, T

*Designation definitions: A= designates populations small enough for eradication or containment; B= designates management of species with limited distribution in some counties; T= designates priority targets for control for Oregon State.

Attachment 6- Resumes

Curriculum vitae of Lynda Moore

Natural Resource Specialist
USDA Forest Service
Pacific Northwest Region
Portland, Oregon



Education:

- M. S. 2009 Environmental Sciences and Management, Portland State University, Portland, Oregon
B. S. 2006 Botany, Oregon State University, Corvallis, Oregon

Employment:

- 2014 to Present** Natural Resource Specialist, USDA Forest Service Region 6 Restoration Services Team, Portland, Oregon
(8/25/2014 to present, GS-11, Competitive service with permanent tenure)
- 2014 to 2014** Botanist, USDA Forest Service TEAMS Enterprise Unit, Bend, Oregon
(5/5/2014 to 8/25/2014, GS-9, Permanent Seasonal Appointment)
- 2013 to 2014** Botanist, USDA Forest Service Region 6 Restoration Services Team, Bend, Oregon
(5/11/2013 to 4/25/2014, GS-11, Detail)
- 2013 to 2013** Botanist, USDA Forest Service Region 6 Restoration Services Team, Bend, Oregon
(7/22/2013 to 8/17/2013, GS-9, Temporary Inner Service Agreement)
- 2011 to 2013** Botanist, USDA Forest Service TEAMS Enterprise Unit, Portland, Oregon
(4/24/2011 to 7/22/2013, GS-9, Permanent Seasonal Appointment)
- 2010 to 2011** Biological Science Technician- Plants, USDA Forest Service TEAMS Enterprise Unit, Portland, Oregon
(6/18/2010 to 10/16/2010, GS-7, Temporary Seasonal Appointment)
- 2009 to 2010** Research Associate, Portland State University Center for Lakes and Reservoirs, Portland, Oregon
- 2006 to 2009** Graduate Student Research Assistant, Portland State University, Portland, Oregon

- 2006 to 2008** Research Associate, Earth Design Consultants, Inc., Corvallis, Oregon
- 2004 to 2006** Undergraduate Student Worker, Oregon State University, Oregon Flora Project, Corvallis, Oregon
- 2001 to 2004** Loader and Pick-Off, United Parcel Service, Portland, Oregon
- 2001 to 2002** Tile Setter, Mad Dog Construction, Portland, Oregon
- 1999 to 2001** Associate Vice President, Manager, Kasch's Garden Centers and Nurseries, Inc., Portland, Oregon
- 1994 to 1999** Sales Associate, Assistant Manager, Kasch's Garden Centers and Nurseries, Inc., Portland, Oregon

Invited Presentations: (* denotes presenting author)

- 2017 USDA Forest Service International Programs Forest Landscape Restoration Seminar, Bend, Oregon. "Design, implementation, and partnerships for non-forested restoration projects", LK Moore.
- 2016 7th Annual Native Plants Conference, Vancouver, Washington. "Revegetation with an emphasis on pollinator conservation: resources for practitioners", LK Moore* and ME Horning.
- 2016 7th Annual Native Plants Conference, Vancouver, Washington. "The art, science, and humiliation of restoration", LE Riley* and LK Moore*
- 2015 Advanced biology class, Access to Success Program, University of Montana, Helena, Montana. "Botany, a senescing science", LK Moore.
- 2010 Urban Pest Management Course, Oregon City, Oregon. "Aquatic weeds: Identification and treatment", LK Moore
- 2009 The Society for Northwestern Vertebrate Biology and the Washington Chapter of the Wildlife Society joint annual meeting, Stevenson, Washington. "Current status of four invasive plant species", LK Moore* and Vanessa Howard*.

Training and Certifications:

- 2017 S1 Mobile Android Field Collection Training, Portland, Oregon
- 2016 Western Grasses Identification Workshop, Portland, Oregon
- 2016 Eastern Grasses Identification Workshop, Bend, Oregon
- 2015 Contracting Officer Representative II, Bend, Oregon
- 2015 Wetland Construction, State College, Pennsylvania
- 2015 Wetland Delineation, Whitefish, Montana
- 2014 Contracting Officer Representative I, Bend, Oregon

- 2012 Trailer Towing Certification
- 2012 Wildland Advanced First Aid
- 2011 Forest Plan Implementation Course (1900-1 NEPA), South Lake Tahoe, California
- 2011 Environmental Compliance for Conservation Assistance

Sean Perks

[REDACTED]

[REDACTED]

Summary

- Skill in native species restoration, seed and vegetation collection, plant identification, and outplanting.
- Experience working in a team to grow, weed, fertilize, prune, and maintain a large volume of plants in a controlled nursery environment.
- Effective leader with experience directing student work crews in a Southwestern white pine epigenetic common garden study, and managing a team of lifeguards in a high capacity pool.
- Safe and effective tree climber skillful in climbing trees for purpose of collecting seed for genetic testing, reforestation, and wildlife surveys.
- Aid in the completion of revegetation plans to effectively complete restoration projects.

Education

Northern Arizona University, Flagstaff, Arizona *Graduated: December 2015*

MS - Climate Science and Solutions Professional Science Masters Program

This Professional Science Masters program integrates science into professional settings. This applied program was molded to my interests of understanding the link between plants, climate, and disease.

- Initiated a Southwestern white pine (SWWP) distribution model based on future projected climate
- Developed GIS maps documenting climate and elevation gradients to determine ideal seed collection sites
- Directed environmental science undergraduate students in applied biological fieldwork
- Collected, grew, and measured thousands of seeds for climate change and disease resistance research

Northern Arizona University, Flagstaff, Arizona *Graduated: May 2014*

BS - Environmental Science - Biology Emphasis

Relevant course work:

- Sustainable Botany ▪ Organic Chemistry
- Ecological Niche Modeling ▪ Biochemistry
- Conservation Biology ▪ Climate Dynamics
- Forest Measurements ▪ Environmental Ecology

- Atmosphere and Hydrosphere ▪ Biology / microbiology lab **Work Experience**

Forest Service: Dorena Genetic Resource Center *January 2017 – Present*

Assist nursery crew leader in maintaining plant quality and nursery operations. Collect and grow/propagate native plants from cuttings and seed and outplant them for restoration purposes.

- Fertilize, transplant, weed and prune dozens of native species and thousands of individual plants including our Port Orford cedar (POC) seed orchards
- Successfully trained for safe operation of utility vehicles required to complete nursery/horticultural duties which include a bobcat and flatbed, with experience using a tractor and aerial lift
- Plant propagation and seed collection/extraction on site and in the field for native plants and pines
- Strictly control disease and insects by conforming to a high standard of sanitation and monitoring
- Successfully identify native species and collect seed and vegetation for restoration projects
- Outplant hundreds of native species for native plant restoration projects in the Umpqua, Willamette, Deschutes, Siskiyou, Boise, and other National Forests
- Aid in the writing of revegetation plans to complete restoration projects.

Forest Service: Dorena Genetic Resource Center *April 2016 – January 2017*

Maintain smooth nursery operations and keep plants and facility in premium condition. Involved in native plant restoration, seed collection, and tree climbing.

- Skilled and safe tree climbing with experience collecting/caging cones, pruning trees, and conducting wildlife surveys. Have climbed for the Umpqua, Deschutes, and Fremont National Forests.
- Keep accurate seedling and general plant inventories of raised beds and greenhouses
- Knowledge of Dorena's irrigation system and Irritrols. Plumb new greenhouses with PVC and repair PVC plumbing when necessary
- Use and maintenance of waterjet planting system for restoration planting
- Record, download, enter, and send daily weather station data to NOAA
- Work in groups to effectively inoculate pines with blister rust and perform spore density counts using a compound microscope

NAU: Merriam Powell Center and School of Forestry *December 2014 – April 2016*

Researched climate impacts and disease resistance for southwestern white pine (SWWP) as part of a 4 million dollar NSF grant. Worked with supervisor and teammates to collect, process, grow, and maintain over 10,000 seedlings.

- Worked with NAU faculty and Forest Service employees across multiple disciplines including forest pathology, ecology, climate science, and epigenetics to develop SWWP studies
- Took initiative to produce quality climate and distribution maps of SWWP using Arcmap to choose ideal seed collection sites
- Basic distribution modeling for SWWP using MAXENT
- Directed student work crews to take scientific measurements of SWWP for common garden study

- Worked in an interdisciplinary team of professionals to install solar panels and maintain remote irrigation systems for Southwestern Experimental Garden Array (SEGA)
- Over 200 hours spent in the greenhouse/remote common gardens with experience maintaining and taking scientific measurements of over 8,000 seedlings in a small team of graduate students/professors.
- Tested/processed over 5,000 seeds, measured/process over 500 cones for collaborative epigenetic common garden study
- Presented SWWP distribution maps to a group of 20 SWWP, genetic, and modeling professionals
- Forest Service certified tree climber with over 100 hours of climbing experience, cone collecting, and cone manipulation while in tree for purpose of epigenetic and disease resistance research

Attachment 7 Vascular Plant Species Observed During 2017 Surveys

Life form	Family	Botanical name	Common Name	CODE	Fenced Area	Road	Noble fir	Nativity	Ownership
Forb	Apiaceae	<i>Lomatium martindalei</i>	Cascade desert parsley	LOMA5	X	X		native	USFS
Forb	Apiaceae	<i>Lomatium utriculatum</i>	common lomatium	LOUT	X	X		native	USFS
Forb	Apiaceae	<i>Osmorhiza purpurea</i>	purple sweetroot	OSPU		X		native	USFS
Forb	Apocynaceae	<i>Apocynum androsaemifolium</i>	spreading dogbane	APAN2	X	X		native	USFS
Forb	Asteraceae	<i>Achillea millefolium</i>	common yarrow	ACMI2	X	X		native	USFS
Forb	Asteraceae	<i>Anaphalis margaritacea</i>	western pearly everlasting	ANMA	X	X		native	USFS
Forb	Asteraceae	<i>Bellis perennis</i>	English lawndaisy	BEPE2	X	X		not native	USFS
Forb	Asteraceae	<i>Hieracium albiflorum</i>	white hawkweed	HIAL2	X	X		native	USFS
Forb	Asteraceae	<i>Leucanthemum vulgare</i>	oxeye daisy	LEVU	X	X		not native	USFS
Forb	Asteraceae	<i>Matricaria discoidea</i>	disc mayweed	MADI6	X	X		not native	USFS
Forb	Asteraceae	<i>Senecio jacobaea</i>	stinking willie	SEJA		X		not native	USFS
Forb	Asteraceae	<i>Senecio triangularis</i>	arrowleaf ragwort	SETR	X	X		native	USFS
Forb	Asteraceae	<i>Taraxacum officinale</i>	common dandelion	TAOF	X	X		not native	USFS
Forb	Berberidaceae	<i>Achlys triphylla</i>	sweet after death	ACTR		X	X	native	USFS/BLM
Forb	Berberidaceae	<i>Berberis nervosa</i>	Cascade barberry	MANE2		X		native	USFS
Forb	Blechnaceae	<i>Blechnum spicant</i>	deer fern	BLSP		X	X	native	USFS/BLM
Forb	Boraginaceae	<i>Myosotis arvensis</i>	field forget-me-not	MYLA	X			not native	USFS
Forb	Brassicaceae	<i>Draba verna</i>	spring draba	DRVE2	X	X		not native	USFS
Forb	Brassicaceae	<i>Erysimum capitatum</i> var. <i>capitatum</i>	sanddune wallflower	ERCAC		X		native	USFS
Forb	Brassicaceae	<i>Turritis glabra</i>	tower rockcress	ARGL	X	X		native	USFS
Forb	Caryophyllaceae	<i>Cerastium arvense</i> ssp. <i>strictum</i>	field chickweed	CEARS2	X	X		not native	USFS
Forb	Caryophyllaceae	<i>Dianthus armeria</i> ssp. <i>armeria</i>	Deptford pink	DIAR2	X			not native	USFS
Forb	Caryophyllaceae	<i>Silene douglasii</i>	Douglas's catchfly	SIDO	X	X		native	USFS
Forb	Caryophyllaceae	<i>Stellaria crispa</i>	curled starwort	STCR2		X		native	USFS
Forb	Clusiaceae	<i>Hypericum perforatum</i>	common St. Johnswort	HYPE	X	X		not native	USFS
Forb	Dennstaedtiaceae	<i>Pteridium aquilinum</i>	western brackenfern	PTAQ		X	X	native	USFS/BLM
Forb	Dryopteridaceae	<i>Polystichum munitum</i>	western swordfern	POMU		X		native	USFS
Forb	Fabaceae	<i>Lupinus rivularis</i>	riverbank lupine	LURI		X	X	native	USFS/BLM
Forb	Fabaceae	<i>Lupinus sellulus</i> ssp. <i>lobbii</i> var. <i>sellulus</i>	Donner Lake lupine	LUSE2	X	X		native	USFS
Forb	Fabaceae	<i>Trifolium repens</i>	white clover	TRRE3	X	X		not native	USFS
Forb	Fabaceae	<i>Vicia americana</i> var. <i>americana</i>	American vetch	VIAMA6		X		native	USFS
Forb	Liliaceae	<i>Allium crenulatum</i>	Olympic onion	ALCR4		X		native	USFS

Life form	Family	Botanical name	Common Name	CODE	Fenced Area	Road	Noble fir	Nativity	Ownership
Forb	Liliaceae	<i>Clintonia uniflora</i>	bride's bonnet	CLUN2			X	native	BLM
Forb	Liliaceae	<i>Lilium columbianum</i>	Columbia lily	LICO	X	X		native	USFS
Forb	Liliaceae	<i>Maianthemum stellatum</i>	starry false lily of the valley	MAST4			X	native	BLM
Forb	Onagraceae	<i>Chamerion angustifolium</i> ssp. <i>angustifolium</i>	fireweed	CHANA2		X		native	USFS
Forb	Orchidaceae	<i>Listera caurina</i>	northwestern twayblade	LICA10		X		native	USFS
Forb	Plantaginaceae	<i>Plantago lanceolata</i>	narrowleaf plantain	PLAA	X	X		not native	USFS
Forb	Plantaginaceae	<i>Plantago major</i>	common plantain	PLMA2		X		not native	USFS
Forb	Polemoniaceae	<i>Phlox diffusa</i>	spreading phlox	PHDI3	X	X		native	USFS
Forb	Polygonaceae	<i>Rumex acetosella</i>	common sheep sorrel	RUAC3	X	X	X	not native	USFS/BLM
Forb	Portulacaceae	<i>Claytonia sibirica</i>	Siberian springbeauty	CLS12		X		native	USFS
Forb	Ranunculaceae	<i>Anemone lyallii</i>	Little Mountain thimbleweed	ANLY		X	X	native	USFS/BLM
Forb	Ranunculaceae	<i>Anemone oregana</i> var. <i>oregana</i>	blue windflower	ANORO			X	native	BLM
Forb	Ranunculaceae	<i>Delphinium menziesii</i>	Menzies' larkspur	DEME	X	X		native	USFS
Forb	Ranunculaceae	<i>Ranunculus uncinatus</i>	woodland buttercup	RAUN	X	X		native	USFS
Forb	Rosaceae	<i>Fragaria vesca</i> ssp. <i>bracteata</i>	woodland strawberry	FRVEB2	X			native	USFS
Forb	Rosaceae	<i>Fragaria virginiana</i>	Virginia strawberry	FRVIP2		X		native	USFS
Forb	Scrophulariaceae	<i>Castilleja hispida</i>	harsh Indian paintbrush	CAHI9	X	X		native	USFS
Forb	Scrophulariaceae	<i>Collinsia parviflora</i>	blue eyed Mary	COPA3	X	X		native	USFS
Forb	Scrophulariaceae	<i>Penstemon cardwellii</i>	Cardwell's beardtongue	PECA16	X	X	X	native	USFS/BLM
Forb	Violaceae	<i>Viola adunca</i>	Violet family	VIAD		X	X	native	USFS/BLM
Forb	Violaceae	<i>Viola glabella</i>	pioneer violet	VIGL	X	X	X	native	USFS/BLM
Gram	Cyperaceae	<i>Carex aquatilis</i> var. <i>dives</i>	water sedge	CAAQD		X		native	USFS
Gram	Cyperaceae	<i>Carex californica</i>	California sedge	CACA9		X		native	USFS
Gram	Cyperaceae	<i>Carex fracta</i>	fragile sheath sedge	CAFR2	X	X	X	native	USFS/BLM
Gram	Cyperaceae	<i>Carex mertensii</i>	Mertens' sedge	CAME6		X		native	USFS
Gram	Cyperaceae	<i>Carex rossii</i>	Ross' sedge	CARO5	X	X	X	native	USFS/BLM
Gram	Poaceae	<i>Agrostis pallens</i>	seashore bentgrass	AGPA8	X	X		native	USFS
Gram	Poaceae	<i>Aira caryophyllea</i>	silver hairgrass	AICA	X	X		not native	USFS
Gram	Poaceae	<i>Bromus sitchensis</i>	Alaska brome	BRSI	X	X		native	USFS
Gram	Poaceae	<i>Bromus inermis</i>	smooth brome	BRIN2	X			not native	USFS
Gram	Poaceae	<i>Cynosurus echinatus</i>	bristly dogstail grass	CYEC	X	X		not native	USFS
Gram	Poaceae	<i>Danthonia californica</i>	California oatgrass	DACA3		X		native	USFS
Gram	Poaceae	<i>Elymus glaucus</i> ssp. <i>glaucus</i>	blue wildrye	ELGL		X		native	USFS

Life form	Family	Botanical name	Common Name	CODE	Fenced Area	Road	Noble fir	Nativity	Ownership
Gram	Poaceae	<i>Festuca idahoensis</i> ssp. <i>roemeri</i>	Roemer's fescue	FEIDR2	X	X		native	USFS
Gram	Poaceae	<i>Festuca rubra</i> ssp. <i>commutata</i>	red fescue	FERU2	X			not native	USFS
Gram	Poaceae	<i>Poa annua</i>	annual bluegrass	POAN	X			not native	USFS
Gram	Poaceae	<i>Poa pratensis</i>	Kentucky bluegrass	POPR	X	X		native	USFS
Shrub	Aceraceae	<i>Acer circinatum</i>	vine maple	ACCI		X		native	USFS
Shrub	Rosaceae	<i>Holodiscus discolor</i>	oceanspray	HODI	X	X		native	USFS
Shrub	Rosaceae	<i>Rubus ursinus</i>	California blackberry	RUUR		X		native	USFS
Tree	Pinaceae	<i>Abies grandis</i>	grand fir	ABGR		X	X	native	USFS/BLM
Tree	Pinaceae	<i>Abies procera</i>	noble fir	ABPR		X	X	native	USFS/BLM

Attachment 8 Non-Vascular Plant Species Observed During 2017 Surveys

Life form	Family	Botanical name	Common Name	CODE	Fenced Area	Road	Noble fir	Nativity	Ownership
Bryophyte	Andreaeaceae	<i>Andreaea rothii</i>	andreaea moss	ANR07	X	X		native	USFS
Bryophyte	Cephaloziellaceae	<i>Cephaloziella divaricata</i>	cephalozia liverwort	CEDI11	X	X		native	USFS
Bryophyte	Ditrichaceae	<i>Ceratodon purpureus</i>	ceratodon moss	CEPU12	X	X	X	native	USFS/BLM
Bryophyte	Leskeaceae	<i>Claopodium bolanderi</i>	Bolander's claopodium moss	CLBO10			X	native	BLM
Bryophyte	Dicranaceae	<i>Dicranum fuscescens</i>	dicranum moss	DIFU5			X	native	BLM
Bryophyte	Grimmiaceae	<i>Grimmia anodon</i>	grimmia dry rock moss	GRAN70		X		native	USFS
Bryophyte	Grimmiaceae	<i>Grimmia longirostris</i>	grimmia dry rock moss	GRLO2		X		native	USFS
Bryophyte	Grimmiaceae	<i>Grimmia leibergii</i>	grimmia dry rock moss	GRTR3		X		native	USFS
Bryophyte	Grimmiaceae	<i>Grimmia</i> sp	grimmia dry rock moss	GRIMM2		X		native	USFS
Bryophyte	Hypnaceae	<i>Hypnum circinale</i>	hypnum moss	HYCI70			X	native	BLM

Life form	Family	Botanical name	Common Name	CODE	Fenced Area	Road	Noble fir	Nativity	Ownership
Bryophyte	Brachytheciaceae	<i>Isothecium myosuroides</i>	isothecium moss	ISMY2			X	native	BLM
Bryophyte	Polytrichaceae	<i>Polytrichum piliferum</i>	polytrichum moss	POPI10		X		native	USFS
Bryophyte	Porellaceae	<i>Porella navicularis</i>	porella liverwort	PONA7			X	native	BLM
Bryophyte	Ptilidiaceae	<i>Ptilidium californicum</i>	ptilidium liverwort	PTCA5			X	native	BLM
Bryophyte	Grimmiaceae	<i>Racomitrium affine</i>	racomitrium moss	RAAF2	X	X	X	native	USFS/BLM
Bryophyte	Grimmiaceae	<i>Racomitrium heterostichum</i>	racomitrium moss	RAHE8	X	X		native	USFS
Bryophyte	Grimmiaceae	<i>Racomitrium varium</i>	racomitrium moss	RAVA3	X	X	X	native	USFS/BLM
Bryophyte	Radulaceae	<i>Radula bolanderi</i>	radula liverwort	RABO5			X	native	BLM
Bryophyte	Scapaniaceae	<i>Scapania bolanderi</i>	scapania liverwort	SCBO4			X	native	BLM
Bryophyte	Pottiaceae	<i>Tortula sp.</i>	tortula moss	TORTU	X	X		native	USFS
Bryophyte	Pottiaceae	<i>Tortula papillosissima</i>	tortula moss	TOPA9	X	X		native	USFS
Bryophyte	Orthotrichaceae	<i>Ulota megalospora</i>	largespore ulota moss	ULME			X	native	BLM
Lichen	Alectoriaceae	<i>Alectoria sarmentos</i>	witch's hair lichen	ALSA9			X	native	BLM
Lichen	Parmeliaceae	<i>Bryoria pseudofuscescens</i>	horsehair lichen	BRPS60			X	native	BLM
Lichen	Teloschistaceae	<i>Caloplaca sp.</i>	orange lichen	CALOP7		X		native	USFS
Lichen	Cladoniaceae	<i>Cladonia coniocraea</i>	cup lichen	CLCO13	X		X	native	USFS/BLM
Lichen	Cladoniaceae	<i>Cladonia fimbriata</i>	cup lichen	CLFI2	X	X		native	USFS
Lichen	Cladoniaceae	<i>Cladonia macilenta var. bacillaris</i>	cup lichen	CLMAB	X	X		native	USFS
Lichen	Cladoniaceae	<i>Cladonia pyxidata</i>	cup lichen	CLPY60	X	X		native	USFS
Lichen	Cladoniaceae	<i>Cladonia sp.</i>	cup lichen	CLADO3	X	X	X	native	USFS/BLM
Lichen	Cladoniaceae	<i>Cladonia transcendens</i>	transcend cup lichen	CLTR60			X	native	BLM
Lichen	Physciaceae	<i>Diplotomma penichrum</i>	diplotomma lichen	DIPE6			X	native	BLM
Lichen	Parmeliaceae	<i>Hypogymnia enteromorpha</i>	tube lichen	HYEN60			X	native	BLM
Lichen	Parmeliaceae	<i>Hypogymnia inactiva</i>	inactive tube lichen	HYIN2			X	native	BLM
Lichen	Parmeliaceae	<i>Hypogymnia tubulosa</i>	tube lichen	HYTU60			X	native	BLM
Lichen	Bacidiaceae	<i>Japewia tornoensis</i>	japewia liche	JATO			X	native	BLM
Lichen	Lecanoraceae	<i>Lecanora symmicta</i>	rim lichen	LESY			X	native	BLM
Lichen	Lecideaceae	<i>Lecidea sp.</i>	crust lichen	LECID2		X		native	USFS
Lichen	Pertusariaceae	<i>Ochrolechia laevigata</i>	crabseye lichen	OCLA3			X	native	BLM

Life form	Family	Botanical name	Common Name	CODE	Fenced Area	Road	Noble fir	Nativity	Ownership
Lichen	Pertusariaceae	<i>Ochrolechia oregonensis</i>	Oregon crabseye lichen	OCOR60			X	native	BLM
Lichen	Parmeliaceae	<i>Parmeliopsis hyperopta</i>	bran lichen	PAHY61			X	native	BLM
Lichen	Pertusariaceae	<i>Pertusaria</i> sp.	crust lichen	PERTU			X	native	BLM
Lichen	Pertusariaceae	<i>Pertusaria subambigens</i>	pore lichen	PESU14			X	native	BLM
Lichen	Pertusariaceae	<i>Placopsis gelida</i>	bullseye lichen	PLGE2		X		native	USFS
Lichen	Parmeliaceae	<i>Platismatia glauca</i>	ragged lichen	PLGL60			X	native	BLM
Lichen	Parmeliaceae	<i>Platismatia herrei</i>	Herre's ragged lichen	PLHE60			X	native	BLM
Lichen	Parmeliaceae	<i>Platismatia stenophylla</i>	ragged lichen	PLST6			X	native	BLM
Lichen	Lecanoraceae	<i>Pyrrhospora cinnabarina</i>	crust lichen	PYCI4			X	native	BLM
Lichen	Sphaerophoraceae	<i>Sphaerophorus globosus</i> var. <i>gracilis</i>	globe ball lichen	SPGLG			X	native	BLM
Lichen	Stereocaulaceae	<i>Stereocaulon condensatum</i>	condensed snow lichen	STCO17	X	X		native	USFS
Lichen	Parmeliaceae	<i>Tuckermannopsis chlorophylla</i>	greenleaf tuckermannopsis	TUCH60			X	native	BLM
Lichen	Parmeliaceae	<i>Tuckermannopsis orbata</i>	tuckermannopsis lichen	TUOR60			X	native	BLM
Lichen	Umbilicariaceae	<i>Umbilicaria hyperborea</i>	navel lichen	UMHY2		X		native	USFS
Lichen	Parmeliaceae	<i>Usnea filipendula</i>	beard lichen	USFI61			X	native	BLM

Attachment 9- Field Data Forms

-123.552918 / 44.504321 01-HYPE-01

Siuslaw National Forest Invasive Plant Inventory Form
Adapted from NRIS TERRA Forms (*designates required fields)

*Site ID 1: 01 - Marys Peak Fenced Area *Wood Species Code: HYPE
 Site ID 2: _____ *Hypericum perforatum
 Site ID 3: _____ Use multiple IDs when there is more than
 Site ID 4: _____ one weed species per site.
 *Project: Noxious Weed EIS
 *Date (MM/DD/YYYY): 06/20/2013 Site Sample Type: ISPA
 *Examiner (Last, First, MI): Perkins, Sam M / Moore, Lynda K
 *Region 06, Forest 06, District (circle) Barlow Clackamas River
 Hood River Zigzag
 *State: OR *County (circle) Benton Clackamas Jefferson Marion
 Multnomah Wasco Hood River
 *Watershed HUC (aquatic weeds only): _____ *Ownership: USFS

Legal Description T 125 R 7W S 28 Willamette Mer.
 UTM easting: 456047.50 northing: 4928037.81 Zone 10 NAD 27 NAD 83

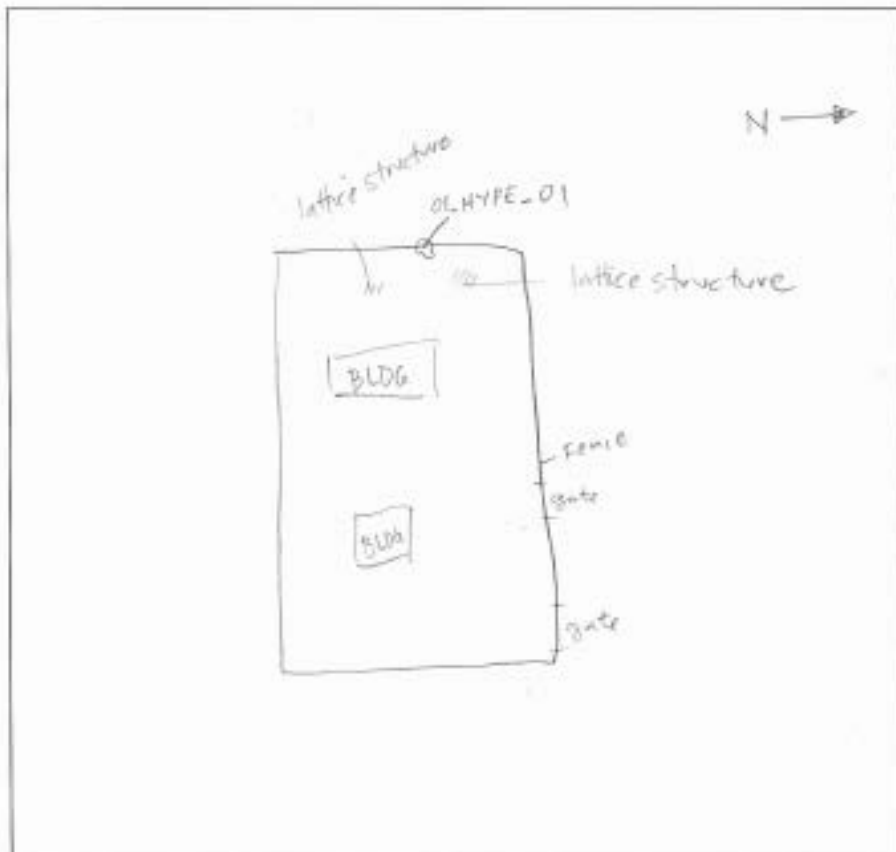
Aspect (degrees): 255 Average Slope (N): 5%
 Horizontal Distance to H2O: _____ feet meters Vertical Distance to H2O: _____ feet meters
 Soep: _____ Spring _____ Intermittent stream _____ Perennial stream _____ Lake _____ Pond _____ ditch _____
 *Circle Dominant Life Form AL Algae/LC Lichen FB Forb GR Graminoid
 SS Subshrub SH Woody Shrub TR Tree-~~NP~~ Non-vascular
 *Canopy Cover (N): 0
 3 Dominant Spp. PLANTS Code Scientific Name
AGPAB Aquaticum fallens
LIVT Lomatium vancouverianum
ACMIZ Achillea millefolium
 Plant Association: _____ Seral Stage: _____

Circle one for phenology, lifeform and distribution of the weed.
 Phenology: Forbs and Shrubs Life Form:
 AL Algae NP Non-vascular
 FB Forb SH Woody Shrub
 SS Sub-shrub GR Graminoid
 LI Woody liana VI Herbaceous vine
 UN Unknown
 *Infested Area Species 1 (acres): 2.10 *Infested Area Species 3 (acres): _____
 *Infested Area Species 2 (acres): _____ *Infested Area Species 4 (acres): _____
 Weed Percent Cover: Species 1: 21 % Species 3: _____ %
 Species 2: _____ % Species 4: _____ %
 Weed Distribution: CL Clumpy SE Scattered even
 SP Scattered patchy LI Linear

Proposed Treatment: Hand pull
 Comments/Directions: 5-10 plant observed at fence line

Additional Comments: *Lightly scattered at low density
within GPS polygon.*

Site Map



- 123.552749 / 44.504462 01-HYPE-02

Siuslaw National Forest Invasive Plant Inventory Form
Adapted from NRIS TERRA Forms (*designates required fields)

*Site ID 1: 01-Marys Peak Fenced Area *Weed Species Code: HYPE
 Site ID 2: _____ Hypericum perforatum
 Site ID 3: _____ Use multiple IDs when there is more than
 Site ID 4: _____ one weed species per site.
 *Project: Nosima Weed EIS Site Sample Type: INPA
 *Date (MM/DD/YYYY): 06/20/2017
 *Examiner (Last, First, MI): PEAKS, SEAN, M / Moore, Lynda K
 *Region 06, Forest 06, District (circle):
 Barlow Clackamas River
 Hood River Zigzag
 *State: OR *County (circle): BENTON Clackamas Jefferson Marion
 Multnomah Wasco Hood River
 *Watershed HUC (aquatic weeds only): _____ *Ownership: _____

Legal Description T 12S R 7W S 28 W _____ Willamette Mer.
 UTM easting: 456061.04 northing: 4928053.38 Zone 10 NAD 27 NAD 83

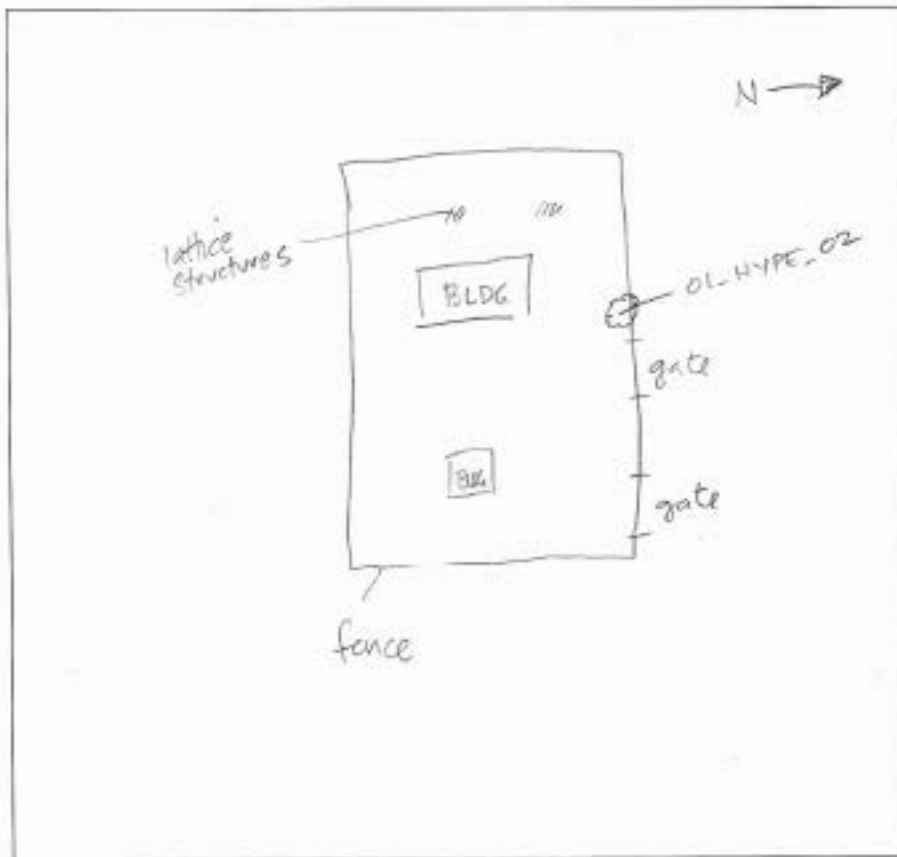
Aspect (degrees): 216 Average Slope (%): 25%
 Horizontal Distance to H2O: _____ feet _____ meters Vertical Distance to H2O: _____ feet _____ meters
 Soap _____ Spring _____ Intermittent stream _____ Perennial stream _____ Lake _____ Pond _____ ditch _____
 *Circle Dominant Life Form: AL Algae LC Lichen FB Forb GR Graminoid SH Woody Shrub TR Tree NP Non-vascular
 *Canopy Cover (%): _____
 3 Dominant Spp. PLANTS Code Scientific Name
AGPAG Agrostis pallens
LEVO Trisetum flavescens
LOV9 Lomatium bicoloratum
 Plant Association: Grass / meadow Seral Stage: _____

Circle one for phenology, lifeform and distribution of the weed.
 Phenology: Forbs and Shrubs Life Form:
 (F1) Vegetative, rosette 100% (FB) Forb NP Non-vascular
 F2 Flowering (SS) Sub-shrub SH Woody Shrub
 F3 Fruiting (LI) Woody liana GR Graminoid
 F4 Senescent or dormant (UN) Unknown VI Herbaceous vine
 *Infested Area Species 1 (acres): 20.1 *Infested Area Species 3 (acres): _____
 *Infested Area Species 2 (acres): _____ *Infested Area Species 4 (acres): _____
 Weed Percent Cover: Species 1: 21 % Species 3: _____ %
 Species 2: _____ % Species 4: _____ %
 Weed Distribution: (CL) Clumpy SE Scattered even
 (SP) Scattered patchy LI Linear

Proposed Treatment: Hand pull
 Comments/Directions: Only 5-10 plants observed

Additional Comments: _____

Site Map



-123.552617/44.504257

01 - LIFE - 03

Siuslaw National Forest Invasive Plant Inventory Form
Adapted from NRIS TERRA Forms (*designates required fields)

*Site ID 1: 01-Marys Peak Fenced Area *Weed Species Code: HVPC
Site ID 2: _____
Site ID 3: _____
Site ID 4: _____
Use multiple IDs when there is more than one weed species per site.
*Project: Noxious Weed EIS Site Sample Type: INPA
*Date (MM/DD/YYYY): 09/20/2012
*Examiner (Last, First, MI): Moore, Lynda K
*Region 06, Forest 06, District (circle) Barlow Clackamas River
Hood River Zigzag
*State: OR *County (circle): Clackamas Jefferson Marion
Multnomah Wasco Hood River
*Watershed HUC (aquatic weeds only): _____ *Ownership: USFS

Legal Description T 12S R 7W S 28 N _____ Willamette Mer.
UTM easting: 456071.38 northing: 4924020.53 Zone 10 NAD 27 NAD 83

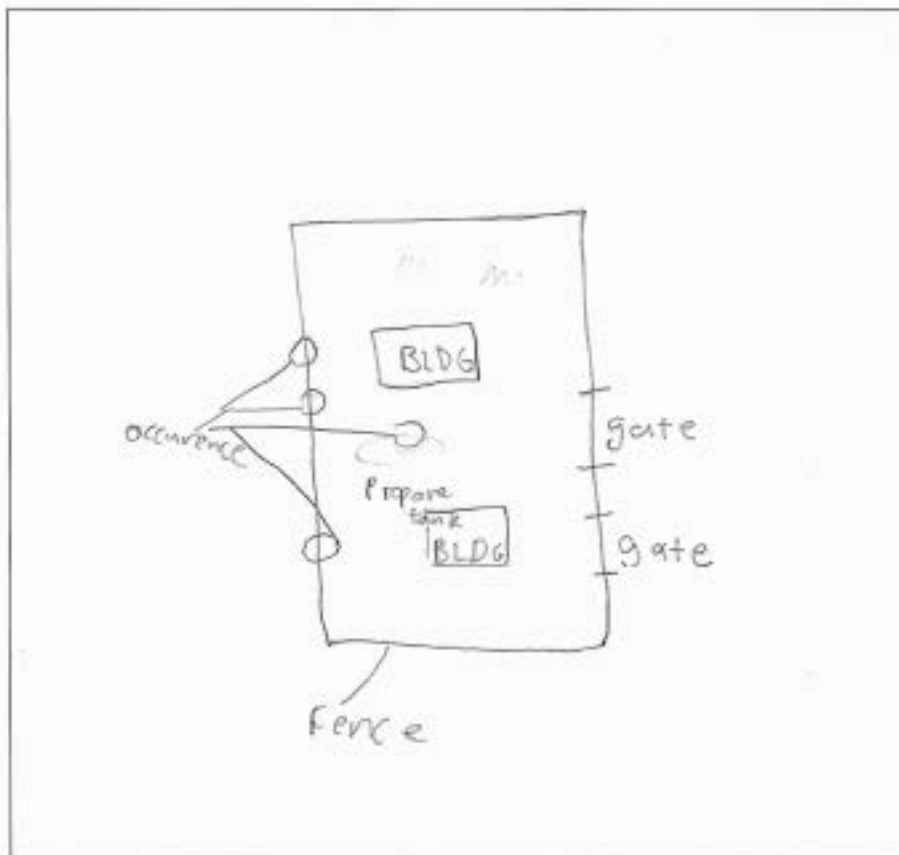
Aspect (degrees): 90 Average Slope (%): 25%
Horizontal Distance to H2O: _____ feet meters Vertical Distance to H2O: _____ feet meters
Soep _____ Spring _____ Intermittent stream _____ Perennial stream _____ Lake _____ Pond _____ ditch _____
*Circle Dominant Life Form AL Algae/Lichen FB Forb GR Graminoid
SS Subshrub SH Woody Shrub TR Tree NP Non-vascular
*Canopy Cover (%): _____
1 Dominant Spp. PLANTS Code Scientific Name
AGPAR Agrostis pallens
LOWT
LEVA

Circle one for phenology, lifeform and distribution of the weed.
Phenology: Forbs and Shrubs Life Form:
F1 Vegetative, rosette 100% AL Algae NP Non-vascular
F2 Flowering FB Forb SH Woody Shrub
F3 Fruiting SS Sub-shrub GR Graminoid
F4 Senescent or dormant LI Woody liana VI Herbaceous vine
UN Unknown
*Infested Area Species 1 (acres): .25 *Infested Area Species 3 (acres): _____
*Infested Area Species 2 (acres): _____ *Infested Area Species 4 (acres): _____
Weed Percent Cover: Species 1: 41 % Species 3: _____ %
Species 2: _____ % Species 4: _____ %
Weed Distribution: CL Clumpy SE Scattered even
SP Scattered patchy LI Linear

Proposed Treatment: Hand pull
Comments/Directions: Went under propane tank then southwest along fence

Additional Comments: _____

Site Map



-123.550614 / 44.510082

02_HYPE_01

Siuslaw National Forest Invasive Plant Inventory Form
Adapted from NRIS TERRA Forms (*designates required fields)

*Site ID 1: 02-Marys Peak Road *Weed Species Code: HYPE
 Site ID 2: _____ Hypericum perforatum
 Site ID 3: _____ Use multiple IDs when there is more than
 Site ID 4: _____ one weed species per site.
 *Project: Noxious Weed EIS
 *Date (MM/DD/YYYY): 06/21/2017 Site Sample Type: INPA
 *Examiner (Last, First, MI): PERKS, SEAN M / Moore, Lynda K.
 *Region 06, Forest 06, District (circle) Barlow Clackamas River
 Hood River Zigzag
BENTON
 *State: OR *County (circle) Clackamas Jefferson Marion
 Multnomah Wasco Hood River
 *Watershed HUC (aquatic weeds only): _____ *Ownership: USFS

Legal Description T 125 R 7W S 28 1/4 _____ Willamette Mer.
 UTM easting: 456294.96 northing: 4928676.49 Zone 10 NAD 27 NAD 83

Aspect (degrees): 320° Average Slope (%): 0-5%
 Horizontal Distance to H2O: _____ feet meters Vertical Distance to H2O: _____ feet meters
 Seep _____ Spring _____ Intermittent stream _____ Perennial stream _____ Lake _____ Pond _____ ditch _____
 *Circle Dominant Life Form AL Algae/LC Lichen FB Forb GR Graminoid
 SS Subshrub SH Woody Shrub TR Tree NP Non-vascular
 *Canopy Cover (%): 4%
 3 Dominant Spp. PLANTS Code Scientific Name
LEVO Leucanthemum vulgare
ACM12 Achillea millefolium
FRVI Fragaria virginiana
 Plant Association: _____ Seral Stage: _____

Circle one for phenology, lifeforms and distribution of the weed.
 Phenology: Forbs and Shrubs Life Form:

<u>F1</u> Vegetative, rosette <u>100%</u>	<u>AL</u> Algae	NP	Non-vascular
F2 Flowering	<u>FB</u> Forb	SH	Woody Shrub
F3 Fruiting	SS	GR	Graminoid
F4 Senescent or dormant	LI	VI	Herbaceous vine
	UN		Unknown

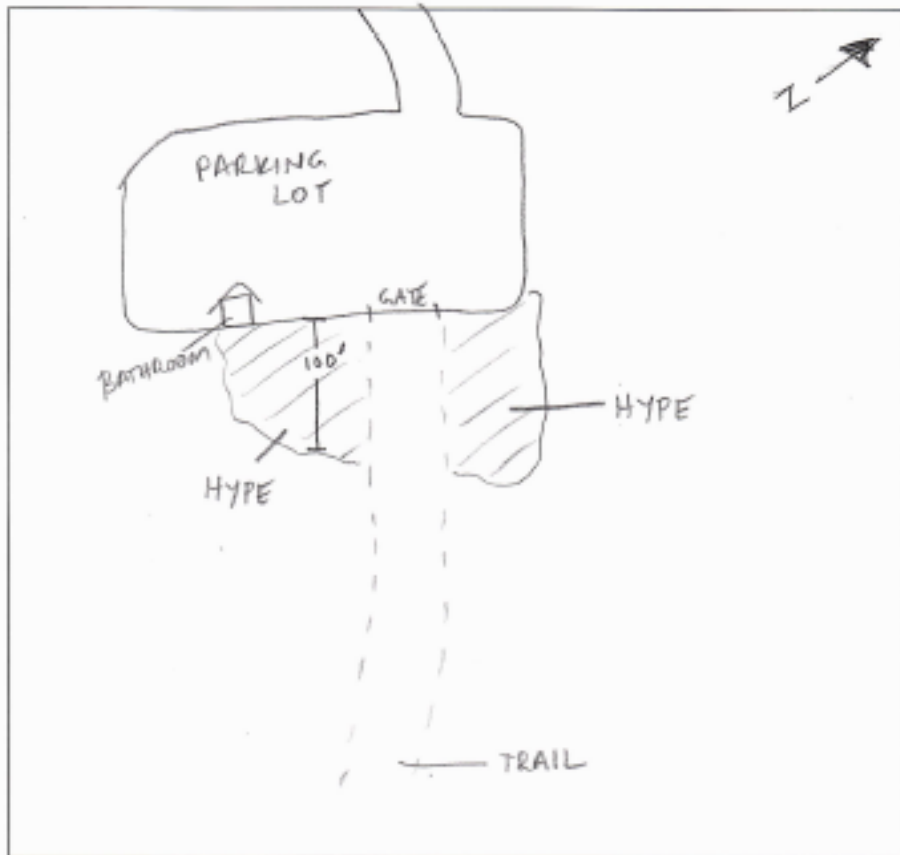
 *Infested Area Species 1 (acres): 0.1 *Infested Area Species 3 (acres): _____
 *Infested Area Species 2 (acres): _____ *Infested Area Species 4 (acres): _____
 Weed Percent Cover: Species 1: < 1 % Species 3: _____ %
 Species 2: _____ % Species 4: _____ %
 Weed Distribution: CL Clumpy SE Scattered even
SP Scattered patchy LI Linear

Proposed Treatment: Spray Treatment

Comments/Directions: Patchy distribution adjacent to parking lot on both sides of trail. Population seems limited in how far along trail it extends (to the south/upslope).

Additional Comments: _____

Site Map



-123.550611 / 44.510105

02-SEJA-01

Siuslaw National Forest Invasive Plant Inventory Form
Adapted from NRIS TERRA Forms (*designates required fields)

*Site ID 1: 02-Marys Peak Road *Weed Species Code: SEJA
 Site ID 2: _____ Senecio jacobaea
 Site ID 3: _____ Use multiple IDs when there is more than
 Site ID 4: _____ one weed species per site.
 *Project: Noxious Weed EIS Site Sample Type: INPA
 *Date (MM/DD/YYYY): 06/21/2017
 *Examiner (Last, First, MI): PERKS, SEAN M.

*Region 06, Forest 06, District (circle) Barlow Clackamas River
 Hood River Zigzag
 *State: OR *County (circle) Clackamas Jefferson Marion
 Multnomah Wasco Hood River
 *Watershed HUC (aquatic weeds only): _____ *Ownership: USFS

Legal Description T 12S R 3W S 28 1/4 Willamette Mer.
 UTM easting: 456247.2 northing: 4728640.1 Zone 10 NAD 27 NAD 83

Aspect (degrees): 320° Average Slope (%): 5%
 Horizontal Distance to H2O: _____ feet meters Vertical Distance to H2O: _____ feet meters
 Seep _____ Spring _____ Intermittent stream _____ Perennial stream _____ Lake _____ Pond _____ ditch _____

*Circle Dominant Life Form AL Algae LC Lichen FB Forb GR Graminoid
 SS Subshrub SH Woody Shrub TR Tree NP Non-vascular

*Canopy Cover (%): <1% Scientific Name
 3 Dominant Spp. PLANTS Code LGVV Leucanthemum vulgare
ACM12 Achillea millefolium
FRV1 Fragaria virginiana
 Plant Association: _____ Seral Stage: _____

Circle one for phenology, lifeform and distribution of the weed.

Phenology: Forbs and Shrubs Life Form:

<u>F1</u> Vegetative, rosette <u>100%</u>	<u>AL</u> Algae	NP	Non-vascular
F2 Flowering	<u>FB</u> Forb	SH	Woody Shrub
F3 Fruiting	SS	GR	Graminoid
F4 Senescent or dormant	LI	VI	Herbaceous vine
	UN		Unknown

*Infested Area Species 1 (acres): .25 *Infested Area Species 3 (acres): _____
 *Infested Area Species 2 (acres): _____ *Infested Area Species 4 (acres): _____

Weed Percent Cover: Species 1: <1 % Species 3: _____ %
 Species 2: _____ % Species 4: _____ %

Weed Distribution: CL Clumpy SE Scattered even
 SP Scattered patchy LI Linear

Proposed Treatment: Spray treatment
 Comments/Directions: Appears to be confined mostly to newly
disturbed area south of parking lot. Primarily on
SW side of trail but does occur on both sides.

Additional Comments: _____

Site Map

