

**THREATENED, ENDANGERED & SENSITIVE PLANT BIOLOGICAL
EVALUATION**

Project Location and Description

Cloak Commercial Thinning Timber Sale

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Introduction

All Forest Service projects, programs, and activities are to be reviewed for possible effects on Proposed Endangered, Threatened, and Forest Service Sensitive Species and the findings documented in the Decision Notice (FSM 2672.4). There is no potential habitat for any USFWS Threatened or Endangered Plants on the Mount Hood National Forest. However, twenty-seven plants on the Regional Forester's List of Sensitive Plants and their Habitats may be found on the Clackamas River and Zigzag Ranger Districts of the Mt. Hood National Forest. These species are listed on the following pages.

There are three steps in a plant biological evaluation that fulfill the requirements dictated by the USFS Manual (2672.42, 2672.43). Step 4 may also be required in certain circumstances. The steps are as follows.

Step 1. Pre-field Review: Each area to be affected by management actions is investigated for Sensitive Plant habitat in the pre-field review. The following sources are consulted to determine whether potential habitat exists: R-6 Regional Forester's and Mt. Hood National Forest Potential Endangered, Threatened, and Sensitive Plant Handbook, Oregon Natural Heritage Database and the Mt. Hood NF Database records, previous botanical surveys, aerial photos, USGS topographic maps, and knowledge provided by individuals familiar with the area. Each plant on the Mt. Hood NF Sensitive Plant List is considered. Most Sensitive Plants tend to be found in riparian zones, meadows, bogs, scree slopes, rocky outcrops, and high volcanic areas. These are considered high priority habitat.

Step 2. Field Reconnaissance: Field reconnaissance is conducted on a priority basis. The first priority is those units or project areas which have been identified as having high probability habitats in or surrounding the unit/project area. The next priority is all other units/project areas. Surveys for the first priority units include, at a minimum, and intense search of all high probability habitat during the season when plant identification is possible. Surveys for second priority habitat are composed of a field check of the unit to search for habitat that may not have been found in the pre-field review. If a sensitive plant is found, R-6 Site forms are completed and sent to the Mt. Hood NF Headquarters Office and the Oregon Natural Heritage Database.

Step 3. Risk Assessment: If a Sensitive Plant is found on or adjoining a site where action is proposed, a risk assessment (analysis of the effects of a proposed action on species and their habitats) must be performed. A risk assessment considers (a) the likelihood of beneficial/adverse effects, and (b) the consequences of these effects on a Sensitive Plant population to determine what the cumulative effects will be to the overall population. Management recommendations are given to mitigate for adverse effects.

Step 4. Botanical Investigation: When initial risk assessment reaches the conclusion “Unknown Impact (UI)” a Botanical Investigation is required. This procedure involves additional investigation that essentially becomes background information for a conservation strategy. The result is a determination of significance of effects on species conservation and population objectives.

STEP 1. PRE-FIELD REVIEW OF EXISTING INFORMATION

The following sources were consulted: R-6 Regional Forester’s and Mt. Hood National Forest Potential Endangered, Threatened, and Sensitive Plant Handbook, Oregon Natural Heritage Database and the Mt. Hood NF Database records, previous botanical surveys, aerial photos, and USGS topographic maps. The following two tables (updated May 1999) list plants currently designated Sensitive, Threatened or Endangered for Region 6 which are either documented or suspected on the Clackamas River or Zigzag Ranger Districts of the Mt. Hood National Forest.

Region 6 Threatened, Endangered, or Sensitive Plants documented or suspected on the Clackamas River and Zigzag Ranger Districts of the Mt. Hood National Forest are contained in the following two tables. The tables were updated in May 1999.

Documented

Plant Name	Habitat	TNC	USFWS	ODA	ONHP
<i>Aster gormanii</i> Gorman’s aster	Dry cliffs, talus, Rock slopes	G3S3	_____	_____	1
<i>Botrychium montanum</i> mountain grape-fern	Forested wet	G3S2	_____	_____	2
<i>Calamagrostis breweri</i> Brewer’s reedgrass	Subalpine moist, Grassy	G3S2	_____	_____	2
<i>Carex livida</i> pale sedge	Wet-dry meadow, Bog	G5S2	_____	_____	2
<i>Cimicifuga elata</i> tall bugbane	Forested mesic	G3S3	_____	C	1
<i>Coptis trifolia</i> 3-leaflet goldthread	Forested wet & Mesic	G5S1	_____	_____	2
<i>Corydalis aquae-gelidae</i> cold water Corydalis	Forested wet	G3S3	_____	C	1
<i>Diphasiastrum</i> <i>complanatum</i> ground cedar	Forested mesic	G5S2	_____	_____	2
<i>Erigeron howellii</i> Howell’s daisy	Moist-dry cliffs, talus, rocky slopes	G2S2	_____	C	1
<i>Fritillaria camschatensis</i> Indian rice	Moist-dry meadow	G5S1	_____	_____	2
<i>Lewisia columbiana</i>	Dry cliffs, talus,	G4T4S2	_____	_____	2

<i>v. columbiana</i> Columbia lewisia	rocky Slopes				
<i>Lycopodiella inundata</i> bog club moss	Meadow – wet, bog	G5S2	___	___	2
<i>Ophioglossum pusillum</i> adder’s tongue	Wet-dry meadow, Bog	G5S1	___	___	2
<i>Scheuchzeria palustris</i> <i>v. americana</i> scheuchzeria	Wet meadow, bog	G5T5S2	___	___	2
<i>Sisyrinchium</i> <i>sarmentosum</i> pale blue-eyed grass	Moist-dry meadow	G2S1	SoC	C	1
<i>Suksdorfia violacea</i> violet suksdorfia	Cliffs, talus, Rocky slopes	G4S1	___	___	2
<i>Taushia stricklandii</i> Strickland’s taushia	Moist-dry meadow	G4S1	___	___	2
<i>Wolffia columbiana</i> water-meal	Pond, lake, gently Flowing water	G5S1	___	___	2

Suspected

Plant name	Habitat	TNC	USFWS	ODA	ONHP
<i>Agoseris elata</i> tall agoseris	Moist-dry meadow	G4S1	___	___	2
<i>Botrychium lanceolatum</i> lance-leaved grape fern	Forested wet	G5S3	___	___	2
<i>Botrychium minganense</i> moonwort	Forested wet	G4S2	___	___	2
<i>Botrychium pinnatum</i> pinnate grape fern	Forested wet	G5S2S3	___	___	2
<i>Howellia aquatilis</i> howellia	ponds	G2SH	LT	___	1-ex
<i>Montia howellii</i> Howell’s montia	Moist-dry lowlands	G3S2	___	C	4
<i>Phlox hendersonii</i> Henderson’s phlox	Subalpine, dry, rocky, Scree	G4S1	___	___	2
<i>Potentilla villosa</i> villous cinquefoil	Subalpine, dry, rocky, scree	G4S1	___	___	2
<i>Romanzoffia thompsonii</i> mistmaiden	Wet, rocky, sunny	G3S3	___	___	1

<i>Wolffia borealis</i> dotted water-meal	Pond, lake, gently flowing water	G5S1	—	—	2
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TNC (Natural Heritage)

ODA (Oregon State Status)

- G Global rank
- G1 Critically imperiled throughout range
- G2 Imperiled throughout its' range
- G3 Rare, threatened, uncommon in range
- G4 Not rare, apparently secure in range
- G5 Widespread, abundant & secure in range
- S State rank
- S1 Critically imperiled in Oregon
- S2 Imperiled in Oregon
- S3 Rare, threatened or uncommon in Oregon

- LE Listed Endangered Species
- LT Listed Threatened Species
- PE Proposed Endangered Species
- PT Proposed Threatened Species
- C Candidate for Listing as T or E

ONHP (Oregon Natural Heritage Program)

- 1 Contains taxa threatened with extinction or presumed to be extinct throughout their entire range
- 2 Contains taxa that are threatened with extirpation or presumed to be extirpated from the state of Oregon
- 3 Contains species for which more information is needed before status can be determined
- 4 Contains taxa of concern which are not currently threatened or endangered

USFWS (US Fish and Wildlife Service)

- LT Listed Threatened
 - LE Endangered
 - PT Proposed Threatened
 - PE Proposed Endangered
 - C Candidate taxa for which the USFWS has sufficient information to support a proposal to list under the ESA
 - SoC Species of Concern. Former C2 candidates which need additional information in order to propose as T or E under the Endangered Species Act. USFWS is reviewing for consideration as Candidates for listing under the ESA.
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Survey Level A: Aerial photo interpretation and review of existing records. This is a determination of the potential for a listed species to occur within the proposed project area. No field surveys are done at this point.

Discussion/Results of Pre-field Review

Records and maps cited in Step 1, page 2 were consulted. The following results were obtained:

- A. Sensitive Plant sites previously documented within the proposed project areas:
No sites.
- B. Sensitive Plant sites previously documented adjacent to the proposed project area(s) that are potentially impacted by the project:
No sites.
- C. _____ Refer to the following table for any Sensitive Plant sites and their habitat that are likely to occur within the proposed project area or are likely to occur in areas outside the proposed project area that may be impacted by project activities. Biological Evaluation is not complete without the completion of Step 2, Field Reconnaissance, if habitat is likely to occur within the proposed project area.

Species	Potential Habitat Present?	Species	Potential Habitat Present?
Agoseris elata		Lewisia columbiana v.columbiana	
Aster gormanii		Lycopodiella inundata	
Botrychium lanceolatum	X	Montia howellii	
Botrychium minganense	X	Ophioglossum pusillum	
Botrychium montanum		Phlox hendersonii	
Botrychium pinnatum		Potentilla villosa	
Calamagrostis breweri		Romanzoffia thompsonii	
Carex livida	X	Scheuchzeria palustris v.americana	
Cimicifuga elata	X	Sisyrinchium sarmentosum	
Corydalis aquae-gelidae	X	Suksdorfia violacea	
Coptis trifolia	X	Taushia stricklandii	
Diphasiastrum complanatum		Wolffia borealis	
Erigeron howellii		Wolffia columbiana	
Fritillaria camschatensis			

- D. _____ No Sensitive Plant species or their habitats are likely to occur within the proposed project area or in areas adjacent to the project that may be affected

by project activities. If no Sensitive species or their habitats are present, then Biological Evaluation is complete at this stage.

STEP 2. FIELD RECONNAISSANCE

A field reconnaissance was conducted for all Sensitive Plant species and their habitats known to occur or suspected to occur within all areas affected by project activities.

Survey Level

Level B – Level A plus single entry survey of probable habitats. Areas are identified by photos and existing field knowledge. Field surveys are conducted during the season most favorable for species identification.

Level C – Level A plus multiple entry survey for listed species likely to inhabit the project area. Conducted at different dates when species identifiable at different times of the season are suspected to occur within areas affected by the project.

Survey Design

Design 1/Field Check

The surveyor gives the area a quick "once over" but does not walk completely through the project area. The entire project area has not been examined.

Design 2/Cursory

The surveyor gives the area a "once over" by walking through the project area. The entire project area has not been examined.

Design 3/Limited Focus

The surveyor closely examines one or more habitat specific locations within the project area but does not look at the rest of the area.

Design 4/General

The surveyor gives the area a closer look by walking through the project area and walking around the perimeter of the area or by walking more than once through the area. Most of the project area is examined.

Design 5/Intuitive Controlled

The surveyor has a closer look by conducting a complete examination of specific areas of the project after walking through the project area and perimeter or by walking more than once through the area.

Design 6/Complete

The surveyor has walked throughout the area being examined until nearly all of the area has been examined.

Results and Discussion of Survey:

No Proposed, Endangered, or Threatened plant species are known to occur on the Mt. Hood National Forest. Surveys were conducted in and adjacent to the proposed project areas on 7-9/02 and 7/03 for Sensitive plant species that are listed in the Regional Forester’s List of Sensitive Plants. No Sensitive plant species were documented in the proposed project areas.

Species	Species Present?	Species	Species Present?
Agoseris elata		Lewisia columbiana v.columbiana	
Aster gormanii		Lycopodiella inundata	
Botrychium lanceolatum		Montia howellii	
Botrychium minganense		Ophioglossum pusillum	
Botrychium montanum		Phlox hendersonii	
Botrychium pinnatum		Potentilla villosa	
Calamagrostis breweri		Romanzoffia thompsonii	
Carex livida		Scheuchzeria palustris v.americana	
Cimicifuga elata		Sisyrinchium sarmentosum	
Corydalis aquae-gelidae		Suksdorfia violacea	
Coptis trifolia		Taushia stricklandii	
Diphasiastrum complanatum		Wolffia borealis	
Erigeron howellii		Wolffia columbiana	
Fritillaria camschatensis			

 The above-listed Sensitive Plant species were located either within the project area or in an area outside the project boundary that may potentially be impacted by the proposed project. Proceed to Step 3. Risk Assessment. Biological Evaluation is not yet complete.

OR

 X No Sensitive Plant species were located within the proposed project area or in an area outside the project boundary that may potentially be impacted by the proposed project. It is unlikely that surveys at other times of year would locate any Sensitive Plants. Biological Evaluation is complete. This conclusion is equivalent to “No impact” risk assessment for Sensitive Plants.

Surveyed by P. Evans 7/29,7/30, 7/31/02, 8/5, 8/20,8/21,8/22, 8/26,8/27,8/28,8/29/02, 9/3, 9/4,9/5, 9/10, 9/11, 9/12,9/16,9/17, 9/18,9/19,9/23,9/24/02.
G. Masters 7/1-3/03, 7/7-9/03, 7/28-30/03

STEP3. RISK ASSESSMENT

The determination of risks to populations of Sensitive Plants takes into consideration the size, density, vigor, habitat requirements, location of the population, and the consequence of an adverse effect on the species as a whole within its range and within the Mt. Hood National Forest. Determine the risk assessment for each sighting of Sensitive Plant species located within the project area, or outside the project area which may be impacted by project activities.

Risk Assessment Levels for Sensitive Species:

No Impact (NI)

A determination of “No Impact” for Sensitive Species occurs when a project or activity will have no environmental effects on habitat, individuals, a population, or a species.

May Impact Individuals or Habitat, but will not likely contribute to a trend towards Federal listing or cause a loss of viability to the population or species (MIIH)

Activities or actions that have effects that are immeasurable, minor or are consistent with Conservation Strategies would receive this conclusion. For populations that are small or vulnerable each individual may be important for short and long term viability.

If risk assessment is MIIH, identify the cause(s) and effect(s) and describe mitigation measures necessary to reduce risks:

Will Impact Individuals or habitat with a consequence that the action may contribute to a trend towards Federal listing or cause a loss of Viability to the population or species (WIFV)

Loss of individuals or habitat can be considered significant when the potential effect may be:

- a. Contributing to a trend toward Federal listing (C-1 or C-2 species),
- b. Results in a significantly increased risk of loss of viability to a species, or
- c. Results in a significantly increased risk of loss of viability to a significant population (stock).

If risk assessment is WIFV, identify the cause(s) and effect(s) and describe mitigation measures that, if adopted, would reduce the effects to a level so that the project would not cause a trend toward federal listing or a loss of viability.

Beneficial Impact (BI)

Projects or activities that are designed to benefit, or that measurably benefit a Sensitive Species should receive this conclusion.

Unknown Impact (UI)

The risk to Sensitive Species is unknown, proceed to Step 4. Botanical Investigation.
Species: Site: Risk Assessment:

STEP 4. BOTANICAL INVESTIGATION

Additional information is required to determine the significance of the proposed project's effects on a Sensitive Plant species over its' entire range. The investigation may require additional inventory information and an assessment of cumulative effects on the species over its entire range. Address the estimated impact on project area populations, regional species viability, statewide species viability, and total (entire range) species viability. Consider cumulative effects, gene pool diversity, and both long and short term changes in habitat. Include references and any documentation from consultation with USFWS. Note: Consultation is required for listed or proposed species and recommended for category 1 or 2 candidate species.)

For each species determine:

1. habitat requirements
2. effects of proposed management activities on required habitats of the species
3. cumulative effects of current and planned activities on the species as a whole

Results of Botanical Investigation:

Species: Site: Risk Assessment:

Biological Evaluation Summary of Effects

SPECIES	ALTERN A NO ACTION	ALTERN B	ALTERN C	ALTERN D	ALTERN E
<i>Agoseris elata</i>	NI	NI	NI	NI	NI
<i>Aster gormanii</i>	NI	NI	NI	NI	NI
<i>Botrychium lanceolatum</i>	NI	NI	NI	NI	NI
<i>Botrychium minganense</i>	NI	NI	NI	NI	NI
<i>Botrychium montanum</i>	NI	NI	NI	NI	NI
<i>Botrychium pinnatum</i>	NI	NI	NI	NI	NI
<i>Calamagrostis breweri</i>	NI	NI	NI	NI	NI
<i>Carex livida</i>	NI	NI	NI	NI	NI
<i>Cimicifuga elata</i>	NI	NI	NI	NI	NI
<i>Corydalis aquae-gelidae</i>	NI	NI	NI	NI	NI
<i>Coptis trifolia</i>	NI	NI	NI	NI	NI
<i>Diphasiastrum complanatum</i>	NI	NI	NI	NI	NI
<i>Erigeron howellii</i>	NI	NI	NI	NI	NI
<i>Fritillaria camschatensis</i>	NI	NI	NI	NI	NI
<i>Lewisia columbiana</i> v. <i>columbiana</i>	NI	NI	NI	NI	NI
<i>Lycopodiella inundata</i>	NI	NI	NI	NI	NI
<i>Montia howellii</i>	NI	NI	NI	NI	NI
<i>Ophioglossum pusillum</i>	NI	NI	NI	NI	NI
<i>Phlox hendersonii</i>	NI	NI	NI	NI	NI
<i>Potentilla villosa</i>	NI	NI	NI	NI	NI
<i>Romanzoffia thompsonii</i>	NI	NI	NI	NI	NI
<i>Scheuchzeria palustris</i> v. <i>americana</i>	NI	NI	NI	NI	NI
<i>Sisyrinchium sarmentosum</i>	NI	NI	NI	NI	NI
<i>Suksdorfia violacea</i>	NI	NI	NI	NI	NI
<i>Taushia stricklandii</i>	NI	NI	NI	NI	NI
<i>Wolffia borealis</i>	NI	NI	NI	NI	NI
<i>Wolffia columbiana</i>	NI	NI	NI	NI	NI

- NI No Impact
- MIIH May impact individuals or habitat, but will not likely contribute to a trend towards federal listing or loss of viability to the population or species.
- WIFV Will impact individuals or habitat with a consequence that the action may contribute to a trend towards federal listing or cause a loss of viability to the population or species. (Trigger for a Significant Action per NEPA)
- BI Beneficial Impact
- UI Unknown Impact