

Addendum to Botany Biological Evaluation for Slinky

Proposed, Endangered, Threatened, and Sensitive Plant Species

District: Clackamas River Ranger District
Location: T6S, R7E, Sections 8,9,10,11,15,16,17,21,22
Watersheds: Oak Grove and Upper Clackamas River
Project: Slinky Timber Sale
Elevation: 3180' - 4050'

Updated 2/19/03

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This Addendum to the Biological Evaluation (BE) for the Slinky Timber Sale includes a review of those species added to the Sensitive Species Plant List, Region 6, U.S. Forest Service in April, 1999. The new (1999) list was incorporated into the Mt. Hood National Forest list of Sensitive plant species in 1999. The list found in the previous BE includes those Sensitive plant species that were either suspected or documented in 1998 when the surveys were conducted.

Three of the species included in the 1998 list were *Huperzia occidentalis* (fir club moss), *Streptopus streptopoides* (kruhsea), and *Utricularia minor* (lesser bladderwort). These three species have been removed from the Sensitive Species Plant List.

The Sensitive plant species that were added since the 1998 Pre-field Review are listed below. They include twelve plant species that are known to occur in sub-alpine rock outcrops, sub-alpine glacial till, and sub-alpine meadows, rock cliffs, and ponds. These species have not been documented on the Clackamas River Ranger District. There may be potential habitat for these plant species on the District so they have been included in the Pre-field Review list.

<i>Howellia aquatilis</i>	(Ponds)
<i>Wolffia borealis</i>	(Ponds)
<i>Calamagrostis breweri</i>	(Sub-alpine Meadows)
<i>Tauschia stricklandii</i>	(Sub-alpine Meadow)
<i>Calochortus longebarbatus</i>	(Grasslands east of Cascade crest)
<i>Castilleja thompsonii</i>	(Grasslands east of Cascade crest)
<i>Lewisia columbiana</i>	(Sub-alpine rock outcrops)
<i>Erigeron howellii</i>	(Rock cliffs)
<i>Suksdorfia violacea</i>	(Moist rock cliffs)
<i>Sullivantia oregana</i>	(Moist rock cliffs)
<i>Phlox hendersonii</i>	(Sub-alpine glacial till)
<i>Potentilla villosa</i>	(Sub-alpine rock outcrops)

The Pre-field Review was conducted for these twelve newly listed species and none of the potential habitat that these species occur in is found in the proposed project area. No additional surveys in the proposed project area will be necessary.

SENSITIVE PLANT SPECIES BIOLOGICAL EVALUATION SUMMARY OF EFFECTS

Project Name: Slinky Timber Sale

SPECIES	Altern A	Altern B	Altern C	Altern D
<i>Agoseris elata</i>	NI	NI	NI	NI
<i>Aster gormanii</i>	NI	NI	NI	NI
<i>Botrychium lanceolatum</i>	NI	NI	NI	NI
<i>Botrychium lunaria</i>	NI	NI	NI	NI
<i>Botrychium minganense</i>	NI	NI	NI	NI
<i>Botrychium montanum</i>	NI	NI	NI	NI
<i>Botrychium pinnatum</i>	NI	NI	NI	NI
<i>Calamagrostis breweri</i>	NI	NI	NI	NI
<i>Calochortus longebarbatus</i>	NI	NI	NI	NI
<i>Castilleja thompsonii</i>	NI	NI	NI	NI
<i>Carex livida</i>	NI	NI	NI	NI
<i>Cimicifuga elata</i>	NI	NI	NI	NI
<i>Coptis trifolia</i>	NI	NI	NI	NI
<i>Corydalis aquae-gelidae</i>	NI	NI	NI	NI
<i>Diphasiastrum complanatum</i>	NI	NI	NI	NI
<i>Erigeron howellii</i>	NI	NI	NI	NI
<i>Howellia aquatilis</i>	NI	NI	NI	NI
<i>Lewisia columbiana</i> var. <i>columbiana</i>	NI	NI	NI	NI
<i>Lycopodiella inundata</i>	NI	NI	NI	NI
<i>Ophioglossum pusillum</i>	NI	NI	NI	NI
<i>Phlox hendersonii</i>	NI	NI	NI	NI
<i>Potentilla villosa</i>	NI	NI	NI	NI
<i>Romanzoffia thompsonii</i>	NI	NI	NI	NI
<i>Scheuchzeria palustris</i>	NI	NI	NI	NI
<i>Sisyrinchium sarmentosum</i>	NI	NI	NI	NI
<i>Susksdorfia violacea</i>	NI	NI	NI	NI
<i>Sullivantia oregana</i>	NI	NI	NI	NI
<i>Tauschia stricklandii</i>	NI	NI	NI	NI
<i>Wolffia borealis</i>	NI	NI	NI	NI
<i>Wolffia columbianum</i>	NI	NI	NI	NI

NI No Impact

Level A survey: Aerial photo interpretation and review of existing records. Determination of the potential for a listed species to occur within the proposed project area.

Discussion/Results of Pre-field Review:

Records and maps cited in Step 1, page 3 were consulted. The following results were obtained.

- A. Sensitive plant sites previously documented within the proposed project area:
None
- B. Sensitive plant sites previously documented within one mile of the proposed project area: **Corydalis aquae-gelidae**
- C. Sensitive plant sites and/or their habitat are likely to occur within the proposed project area, or are likely to occur in areas outside of the proposed project area, which may be affected by project activities.

SPECIES CODE	PREFIELD REVIEW
AGEL2	
ASGO	
BOLA	X
BOLU	X
BOMI	X
BOMO	X
BOPI	X
CABR7	
CALO	
CATH	
CALI4	
CIEL	X
COAQ	X
COTR2	X
DICO	
ERHO	
HOAQ	
LECOC	
LYIN	
OPPU	
PHHE2	
POVI	
ROTH	
SCPAA	
SISA	
SUVI	
TAST	
WOBO	
WOCO	
X	indicates potential Sensitive plant species habitat present
Blank Space	indicates no potential Sensitive plant species habitat present

Step 3. Risk Assessment: If a sensitive plant is found on or adjoining a site where action is proposed, a risk assessment (an 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 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 which essentially becomes background information for a conservation strategy. 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 NF Potential Endangered, Threatened, and Sensitive Plant Lists, Mt. Hood NF Sensitive Plant Handbook, Mt. Hood NF Sensitive Plants Field Guide, R-6 and Mt. Hood NF Sighting Reports Database, Mt. Hood NF Sighting Reports Files, Botanical Experts and Historical Sources, Species Management Guides, Oregon Natural Heritage Database, Aerial Photos, and USGS topographic maps.

This list contains those plants currently listed as Sensitive, Threatened, or Endangered for Region 6 which are either suspected or documented on the Clackamas River Ranger District of the Mt. Hood NF.

PLANT NAME	CODE	HABITAT	TNC	USFWS	ODA	ONHP	D/S
<i>Agoseris elata</i> (tall agoseris)	AGEL2	Meadow/ dry-moist	G4S1	-----	-----	2	S
<i>Aster gormanii</i> (Gorman's aster)	ASGO	Dry cliffs, talus, rock slopes	G3S3	SoC	-----	1	D
<i>Botrychium lanceolatum</i> (lance-leaved grape fern)	BOLA	Forested wet	G5S3	-----	-----	2	D
<i>Botrychium minganense</i> (moonwort)	BOMI	Forested wet	G4S2	-----	-----	2	S
<i>Botrychium montanum</i> (mountain grape-fern)	BOMO	Forested wet	G3S2	-----	-----	2	D
<i>Botrychium pinnatum</i> (pinnate grape-fern)	BOPI	Forested wet	G5S2S3	-----	-----	2	S
<i>Carex livida</i> (pale sedge)	CALI4	Dry, moist, wet meadow, bog	G5S2	-----	-----	2	S
<i>Cimicifuga elata</i> (tall bugbane)	CIEL	Forested mesic	G2S2	SoC	C	1	D
<i>Coptis trifolia</i> (3 leaflet goldthread)	COTR	Forested wet, mesic	G5S1	-----	-----	2	S

PLANT NAME	CODE	HABITAT	TNC	USFWS	ODA	ONHP	D/S
<i>Corydalis aquae-gelidae</i> (cold water corydalis)	COAQ	Forested wet	G3S2	SoC	C	1	D
<i>Diphasiastrum complanatum</i> (ground cedar)	DICO	Forested mesic	G5S2	-----	-----	2	S
<i>Huperzia occidentalis</i> (fir club-moss)	HUOC	Forested wet	G5S2	-----	-----	4	D
<i>Lycopodiella inundata</i> (bog club moss)	LYIN	Meadow wet, bog	G5S2	-----	-----	2	S
<i>Ophioglossum pusillum</i> (adder's tongue)	OPPU	dry, moist, wet Meadow, bog	G5S1	-----	-----	2	D
<i>Romanzoffia thompsonii</i> (Thompson's mistmaiden)	ROTO	seeps	G3S3	-----	-----	1	S
<i>Scheuchzeria palustris v.</i> <i>americana</i> (scheuchzeria)	SCPAA	Meadow wet, bog	G5T5S2	-----	-----	2	S
<i>Sisyrinchium sarmentosum</i> (pale blue-eyed grass)	SISA	Meadow/ dry-moist	G2S1	SoC	C	1	D
<i>Streptopus streptopoides</i> (krushea)	STRSTR	Forested mesic	G5S2	-----	-----	2	S
<i>Utricularia minor</i> (lesser bladderwort)	UTMI	Meadow wet, bog, pond, lake, gently flowing water	G5S2	-----	-----	2	D
<i>Wolffia columbiana</i> (water-meal)	WOCO	Pond, lake, gently flowing water	G5S1	-----	-----	2	D

TNC (Natural Heritage)

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

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

USFWS (U.S. Fish and Wildlife Service)

- 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.

ODA (Oregon State Status)

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

D or S on Clackamas River Ranger District

- D Documented on Clackamas River RD
- S Suspected on Clackamas River RD

**Level A survey: Aerial photo interpretation and review of existing records.
Determination of the potential for a listed species to occur within the proposed project area.**

Discussion/Results of Pre-field Review:

Records and maps cited in Step 1 were consulted.

A. Sensitive plant sites previously documented within the proposed project area: None

B. Sensitive plant sites previously documented within one mile of the proposed project area: *Corydalis aquae-gelidae*

C. Sensitive plant sites and their habitat are likely to occur within the proposed project area, or are likely to occur in areas outside the proposed project area which may be affected by project activities.

SPECIES PREFIELD
REVIEW*

CODE

AGEL2

ASGO

BOLA X

BOMI X

BOMO X

BOPI X

CALI4

CIEL X

COAQ X

COTR X

DICO

HUOC

LYIN

OPPU

ROTO

SCPAA

SISA

STRSTR X

UTMI

WOCO

* X - potential TES plant habitat present

Blank space - no potential TES plant habitat present

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

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.

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

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.

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.

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.

6 – Complete - The surveyor has walked throughout the area being examined until nearly all of the area has been examined.

Results of Survey and Discussion:

I

SPECIES CODE	FIELD RECONNAISSANCE
AGEL2	N
ASGO	N
BOLA	N
BOMI	N
BOMO	N
BOPI	N
CALI4	N
CIEL	N
COAQ	N
COTR	N
DICO	N
HUOC	N
LYIN	N
OPPU	N
ROTO	N
SCPAA	N
SISA	N
STRSTR	N
UTMI	N
WOCO	N

X - species present in project area

U - presence unknown due to insufficient field surveys

N - no evidence of species found during field surveys

Project surveyed by: Carol Horvath and Mark Boyle

Survey level & design: Survey level B and Cursory to Intuitive Controlled Design

Dates surveyed: various dates in March, April, June, July and November 1998

No sensitive plant species were located within the proposed project area or in areas outside the project boundary, which may potentially be impacted by the proposed project. It is unlikely that surveys at other times of year would locate any sensitive plants. (This conclusion is equivalent of "No impact" Risk Assessment for Sensitive Plants.)

Discussion:

All project areas with a moderate to high potential for Sensitive Plant species were surveyed. No Sensitive Plant species were found within the project area. In the event that a sensitive plant population is discovered after the timber sale is sold, Contract Clauses C9.52 and C6.25 will be enforced and project modifications may result.

STEP 3. RISK ASSESSMENT

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 risk assessment for each sighting of sensitive plant species located within the project area, or outside the project area, which may be affected by project activities.

SENSITIVE PLANT SPECIES BIOLOGICAL EVALUATION SUMMARY OF EFFECTS

SPECIES	ALTERNATIVE 1	ALTERNATIVE 2	ALTERNATIVE 3
<i>Agoseris elata</i>	NI	NI	NI
<i>Aster gormanii</i>	NI	NI	NI
<i>Botrychium lanceolatum</i>	NI	NI	NI
<i>Botrychium minganense</i>	NI	NI	NI
<i>Botrychium montanum</i>	NI	NI	NI
<i>Botrychium pinnatum</i>	NI	NI	NI
<i>Carex livida</i>	NI	NI	NI
<i>Cimicifuga elata</i>	NI	NI	NI
<i>Corydalis aquae-gelidae</i>	NI	NI	NI
<i>Coptis trifolia</i>	NI	NI	NI
<i>Diphasiastrum complanatum</i>	NI	NI	NI
<i>Huperzia occidentalis</i>	NI	NI	NI
<i>Lycopodiella inundata</i>	NI	NI	NI
<i>Ophioglossum pusillum</i>	NI	NI	NI
<i>Romanzoffia thompsonii</i>	NI	NI	NI
<i>Scheuchzeria palustris</i> <i>v.americana</i>	NI	NI	NI
<i>Sisyrinchium sarmentosum</i>	NI	NI	NI
<i>Streptopus streptopoides</i>	NI	NI	NI
<i>Utricularia minor</i>	NI	NI	NI
<i>Wolffia columbiana</i>	NI	NI	NI

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.

STEP 4. BOTANICAL INVESTIGATION

Not applicable