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File Code: 2670 Plants **Date:** September 24, 2007
Route To:

Subject: Biological Evaluation-Santiam Pass Summer Recreation Project

To: Santiam Pass Summer Recreation Team Leader/Analysis Files

I. Introduction

Purpose:
The purpose of this Biological Evaluation is to review the Santiam Pass Summer Motorized Recreation Area project in sufficient detail as to determine whether the proposed action will result in a trend toward Federal listing of any sensitive botanical species.

Forest management activities that may impact populations or alter habitat for PETS (proposed, endangered, threatened, or sensitive) species require a Biological Evaluation (FSM 2671.44) to be completed. The Biological Evaluation process (FSM 2672.43) is used to assist in determining the possible effects the proposed management activities have on:

A. Species listed or proposed to be listed as endangered (E) or threatened (T) by the U.S. Fish and Wildlife Service (FWS).

B. Species listed as sensitive (S) by the USDA Forest Service, Region 6. There are 72 plants listed on the Regional Forester's Sensitive Botanical List that are documented or suspected to occur on the Willamette National Forest (Attachment 1).

Biological Evaluation Process:
Under the suggested procedure for conducting a biological evaluation as described in a memo issued August 17, 1995 by the Regional Foresters of regions 1, 4, and 6, the Biological Evaluation is a 7 step process to evaluate possible effects to Proposed, Endangered, Threatened, and Sensitive (PETS) species. The seven steps are as follows:

1. Review of existing documented information.
2. Field reconnaissance of the project area.
3. Determination of effects of proposed actions on PETS species
4. Determination of irreversible or irretrievable commitment of resources (required for listed and proposed species only).
5. Determination of conclusions on effects
6. Recommendations for removing, avoiding, or compensating adverse effects
7. Documentation of consultation with other agencies, references, and contributors

Evaluation of effects for each species may be complete at the end of step #1 or may extend through step #5, depending on project details.

Steps 1, 2, and 5 from above are included in this document. The other steps are included in the Environmental Assessment, and will not be discussed in detail in this document.

II. Description of the Proposed Project

Location:
This project is located on the McKenzie River Ranger District, Willamette National Forest. The Legal location: T.13S, R.7E, T.13S, R.7 1/2E, T.14S, R.7 1/2E, and T.14S, R.7 1/2E; W.M.

Proposed Action:
The District Ranger on the McKenzie River Ranger District proposes to implement actions in response to the needs for action. The Proposed Action, represented by Alternative 2 in the environmental assessment (EA), proposes to designate a system of Forest roads and trails for recreational OHV use along with other actions listed below. This proposal contains much the same set of actions that were described in the February 3, 2005 scoping letter.

Specific route locations and have changed during project development and refinement. The resulting action has a reduction in overall mileage for the road and trail network, it has a fewer number of dispersed camping sites, there are changes in the size and locations of staging areas, with these and other changes appearing on modified Alternative 2 mapping.

A detailed description of the proposed action is provided in Chapter 2 of the Environmental Assessment.

In addition to actions presented in the February 2005 scoping letter, Alternative 2 would also include two non-significant amendments to the Willamette Forest Plan, implemented through a Forest Order.

All alternatives propose the following actions:

- Designate road and trails for OHV use
- Designate and rehabilitate portions of the Santiam Wagon Road
- Develop staging areas
- Designate regulated camping zones
- Create a Kiddy Loop

III. Existing Environment

Sensitive Botanical Species:
Current management direction mandates conservation of several categories of rare plants on the Willamette National Forest (Attachment 1). The Endangered Species Act mandates protection of federally listed Threatened and Endangered species. No federally listed Threatened and Endangered, or Proposed plants occur in the project area. Sensitive species are protected by USDA Forest Service regulations and manual direction (FSM 2672.4).

Prefield reviews are conducted to determine which species from the Regional Foresters 2007 Sensitive Species List for the Willamette National Forest are known from the project area or have suitable habitat present and potentially occur in the project area. Prefield review results show no known occurrences of sensitive botanical species within the project area. There is potential habitat for sensitive species in the project area (see Table 1).

Survey Results:
Surveys of the proposed project area for sensitive botanical species were conducted during August of 2005 and 2006. Survey results are found in Table 1. Three sensitive plants have potential to occur in the project area; *Gentiana newberryi*, and *Agoseris elata* are species associated with mesic meadow communities. *Botrychium pumicola* is a grapefern species suspected to occur on the Willamette National Forest. It is found in lodgepole pine forest on pumice substrates at high elevations above 7200 feet.

Most routes are existing ski trails, existing OHV routes, or skid roads with little to no need for vegetation removal. Other routes are through lodgepole pine forest, with volcanic, well-drained soils. Trees on these sites are scattered and the understory is sparsely vegetated with shrubs, some forbs, and grasses. Three routes pass through dry bunch-grass dominated meadows.

No sensitive botanical species were observed during these surveys.

Many Region 6 sensitive fungi are mycorrhizal, living in symbiosis with the roots of trees. The complex mycorrhizal relationships between fungi and trees are somewhat understood by experts and resource managers; however, locating the underground network of mycelia during project level pre-disturbance surveys is not exact. With the exception of *Bridgeoporus nobillisimus,* pre-disturbance surveys for all other listed fungi is impractical at this time. Bridgeoporus is a large conk found on large diameter noble fir stumps, snags, and infrequently, live trees above 3000 feet in elevation. There are no noble fir trees in the project area; therefore, no habitat for Bridgeoporus would be disturbed.

IV. Impacts of the Proposed Project

Direct and Indirect Impacts:
Implementation of this project would have no direct or indirect effect on sensitive botanical species because no sensitive plants were located during surveys.

Direct and Indirect Impacts to unknown fungi:
This project involves habitat disturbance in terms of trail construction. Without knowing for certain the presence or absence of sensitive fungi deemed impractical for pre-disturbance surveys, it is assumed that there would be very localized direct impacts to the mycelial network by selecting any of the alternatives. The soils in the Santiam Pass Summer Recreation area are volcanic, well-drained, and nutrient-poor. The risk of negative impacts to listed fungi is low due to the lack of nutrient-rich organic material available for decomposition. Therefore, the likelihood of offering suitable habitat for other listed fungi is low.

The indirect impacts to fungi would be evident by increased soil compaction, which reduces pore space for root penetration and production of feeder rootlets where mycorrhizae form. The volcanic soils in the project area are readily displaced, thus not subject to the degree of compaction of other soil types found in the Western Cascades. Therefore, the risk of indirect soil compaction is low in the project area and would not lead to a trend toward federal listing of species.

Cumulative Effects:
The cumulative effects analysis area for the Santiam Pass Summer Motorized Recreation area is the entire project area. Past management activities in the last 50 years include road construction, road maintenance, fire suppression, salvage logging, construction of Hoodoo Ski Area, and other developed recreation areas. Included in these activities is the Fall 2007 Santiam Wagon Road maintenance work, involving heavy machinery. Because the equipment to implement this maintenance would need to meet timber sale contract provisions for cleanliness, there are no expected cumulative effects on sensitive plants from the road project. Implementing any of the action alternatives would have no additional cumulative effect on sensitive botanical species because no sensitive plant species were located in the project area during surveys.

V. Determination

It is my determination that selection of any alternative or combination of alternatives proposed would have "no impact" on sensitive botanical species.

For listed fungi, this project "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". The risk of adverse effects to listed fungi from implementation of this project is low because of soil productivity in the project area.

Prepared by: /s/ Burtchell Thomas Date: September 24, 2007
Burtchell Thomas, Botanist
McKenzie River Ranger District

Table 1: Summary of Potential Habitat and Presence for Sensitive Botanical Species

Species	Prefield Review	Species Presence
Agoseris elata	habitat present	No
Arabis hastatula	habitat not present	No
Arnica viscosa	habitat not present	No
Asplenium septentrionale	habitat not present	No
Aster gormanii	habitat not present	No
Boletus pulcherrimus	habitat not present	No
Botrychium minganense	habitat not present	No
Botrychium montanum	habitat not present	No
Botrychium pumicola	habitat present	No
Bridgeoporus nobillisimus	habitat not present	No
Calamagrostis breweri	habitat not present	No
Carex livida	habitat not present	No
Carex scirpoidea var. *stenochlaena*	habitat not present	No
Castilleja rupicola	habitat not present	No
Chaenotheca subroscida	habitat not present	No
Cimicifuga elata	habitat not present	No
Coptis trifolia	habitat not present	No
Cordyceps capitata	habitat not present	No
Cortinarius barlowensis	habitat not present	No
Corydalis aqua-gelidae	habitat not present	No
Cudonia monticola	habitat not present	No
Dermatocarpon luridum	habitat not present	No
Eucephalis(Aster) vialis	habitat not present	No
Frasera umpquaensis	habitat not present	No
Gentiana newberryi	habitat present	No
Gomphus kaufmanii	habitat not present	No
Gyromitra californica	habitat not present	No
Hypogymnia duplicata	habitat not present	No
Iliamna latibracteata	habitat not present	No
Leptogium burnetiae var. hirsutum	habitat not present	No
Leptogium cyanescens	habitat not present	No
Leucogaster citrinus	habitat not present	No
Lewisia columbiana var. columbiana	habitat not present	No
Lobaria linita	habitat not present	No
Lupinus sulphureus var. kincaidii	habitat not present	No
Lycopodiella inundata	habitat not present	No
Lycopodium complanatum	habitat not present	No

Montia howellii	habitat not present	No
Mycenia monticola	habitat not present	No
Nephroma occultum	habitat not present	No
Ophioglossum pusillum	habitat not present	No
Pannaria rubiginosa	habitat not present	No
Pellaea andromedaefolia	habitat not present	No
Peltigera neckeri	habitat not present	No
Peltigera pacifica	habitat not present	No
Phaeocollybia attenuata	habitat not present	No
Phaeocollybia dissiliens	habitat not present	No
Phaeocollybia pseudofestiva	habitat not present	No
Phaeocollybia sipei	habitat not present	No
Pilophorus nigricaulis	habitat not present	No
Polystichum californicum	habitat not present	No
Potentilla villosa	habitat not present	No
Pseudocyphellaria mallota	habitat not present	No
Pseudocyphellaria rainierensis	habitat not present	No
Ramalina pollinaria	habitat not present	No
Ramaria amyloidea	habitat not present	No
Ramaria aurantiisiccescens	habitat not present	No
Ramaria gelatinaurantia	habitat not present	No
Ramaria largentii	habitat not present	No
Rhizomnium nudum	habitat not present	No
Romanzoffia thompsonii	habitat not present	No
Scheuchzeria palustris var. americana	habitat not present	No
Schistostega pennata	habitat not present	No
Scirpus subterminalis	habitat not present	No
Scouleria marginata	habitat not present	No
Sisyrinchium sarmentosum	habitat not present	No
Sowerbyella rhenana	habitat not present	No
Tetraphis geniculata	habitat not present	No
Thorluna disimilis	habitat not present	No
Usnea longissima	habitat not present	No
Utricularia minor	habitat not present	No
Wolffia borealis	habitat not present	No
Wolffia columbiana	habitat not present	No

ATTACHMENT 1: **Regional Forester's Sensitive Botanical Species List for the Willamette National Forest FY 2007.** Species of federal, state and local importance are included on the R-6 list.

Species	Occurrence on WNF	ONHP Status	State Status	Federal Status	Habitat Types
Agoseris elata	S	2			MM,DM
Arabis hastatula	D	1		SofC	RO
Arnica viscosa	S	2			RS
Asplenium septentrionale	S	2			RO
Aster gormanii	D	1			RS
Boletus pulcherrimus	D	1			CF
Botrychium minganense	D	2			RZ,CF
Botrychium montanum	D	2			RZ,CF
Botrychium pumicola	S	1	LT		HV
Bridgeoporus nobilissimus	D	1			CF
Calamagrostis breweri	D	2			MM,RZ
Carex livida	S	2			WM
Carex scirpoidea var. stenochlaena	D	2			RO
Castilleja rupicola	D	2			RO
Chaenotheca subroscida	D	3			CF
Cimicifuga elata	D	1	C		CF
Coptis trifolia	S	2			WM,CF
Cordyceps capitata	D	unlisted			CF
Cortinarius barlowensis	D				montane CF
Corydalis aqua-gelidae	D	1	C		RZ,CF
Cudonia monticola	D	not listed			CF
Dermatocarpon luridum	S	3			RZ on rock
Eucephalis (Aster) vialis	S	1	LT	SofC	CF
Frasera umpquaensis	D	1	C		MM
Gentiana newberryi	D	2			MM
Gomphus kaufmanii	D	3			CF
Gyromitra californica	D	2			CF
Hypogymnia duplicata	S	3			CF
Iliamna latibracteata	S	2			CF,RZ
Leptogium burnetiae var. hirsutum	S	3			CF
Leptogium cyanescens	D	3			CF
Leucogaster citrinus	D	3			CF
Lewisia columbiana var. columbiana	D	2			RS
Lobaria linita	D	2			RO
Lupinus sulphureus var. kincaidii	S	1	LT	LT	MM,DM
Lycopodiella inundata	D	2			WM
Lycopodium complanatum	D	2			CF

Species	Occurrence on WNF	ONHP Status	State Status	Federal Status	Habitat Types
Montia howellii	D	4	C		RZ
Mycenia monticola	D	not listed			CF
Nephroma occultum	D	4			CF
Ophioglossum pusillum	D	2			WM
Pannaria rubiginosa	D	2			CF
Pellaea andromedaefolia	S	2			RO
Peltigera neckeri	D	not listed			CF
Peltigera pacifica	D	not listed			CF
Phaeocollybia attenuata	D	4			CF
P. dissiliens	D	3			CF
P. pseudofestiva	D	3			CF
P. sipei	D	3			CF
Pilophorus nigricaulis	D	2			RO
Polystichum californicum	D	2			RO
Potentilla villosa	D	2			RS, RO
Pseudocyphellaria mallota	D				CF,RZ
Pseudocyphellaria rainierensis	D	4			CF,RZ
Ramalina pollinaria	D	2			CF, RZ
Ramaria amyloidea	D	2			CF
R. aurantiisiccescens	D	4			CF
R. gelatiniaurantia	D	3			CF
R. largentii	D	3			CF
Rhizomnium nudum	D	2			CF
Romanzoffia thompsonii	D	1			RS
Scheuchzeria palustris var. americana	D	2			WM
Schistostega pennata	D	2			CF
Scirpus subterminalis	D				WM
Scouleria marginata	S	3			RZ
Sisyrinchium sarmentosum	S	1	C	SofC	MM,DM
Sowerbyella rhenana	D	3			CF
Tetraphis geniculata	S	2			CF
Thorluna disimilis	D	2			CF
Usnea longissima	D	3			CF,RZ
Utricularia minor	D	2			SW
Wolffia borealis	S	2			SW
Wolffia columbiana	S	2			SW

Occurrence on Willamette National Forest:

S = Suspected
D = Documented

Oregon Natural Heritage Program (ORNHP):

1 = Taxa threatened or endangered throughout range.
2 = Taxa threatened or endangered in Oregon but more common or stable elsewhere.
3 = Species for which more information is needed before status can be determined, but which may be threatened or endangered (Review).
4 = Species of concern not currently threatened or endangered (Watch).

Oregon State Status:

LT = Threatened
LE = Endangered
C = Candidate

Federal Status: These plant species were originally published as CANDIDATE THREATENED (CT) in the Smithsonian Report, **Federal Register**, July 1, 1975, or as PROPOSED ENDANGERED (PE) in a later report, **Federal Register**, June 16, 1976. The latest **Federal Register** consulted was dated September 30, 1993. Updated listings appear periodically in the Notice of Review (USFWS); the status of several species is categorized as follows:

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
Sof C = Species of Concern; taxa for which additional information is needed to support proposal to list under the ESA.

Habitat Types:

MM = Mesic meadows
WM = Wet meadows
DM = Dry meadows
RZ = Riparian zones, floodplains
CF = Coniferous forest
RS = Rocky slopes, scree
RO = Rock outcrops, cliffs
DW = Dry open woods
HV = High volcanic areas
SW = Standing water

ATTACHMENT 2: **Field reconnaissance survey levels for determining presence potential for TES species.**

Level A: Aerial photo interpretation and review of existing site records. Determination of the potential for a listed species to occur within the proposed project area. No field surveys completed.

Low potential:	Less than 40% potential for listed species inhabiting the project area.
Moderate potential:	40-60% potential for a listed species inhabiting the proposed project area.
High potential:	Greater than 60% potential for listed species inhabiting the proposed project area.

Level B: 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.

Low intensity:	Selected habitat surveys (approximately 5-10% of area) are conducted with a single entry for listed species inhabiting the proposed project area.
Moderate intensity:	Selected habitat surveys (approximately 10-40% of area) are conducted with a single entry for listed species inhabiting the proposed project area.
High intensity:	Selected habitat surveys (approximately 40-60% of area) are conducted with a single entry for listed species inhabiting the proposed project area.

Level C: Multiple entry surveys are conducted for listed species likely to inhabit the proposed project area.

Low intensity:	Selected habitat surveys (approximately 5-10% of area) are conducted with repeated entries for listed species inhabiting the proposed project area.
Moderate intensity:	Selected habitat surveys (approximately 10-60% of area) are conducted with

	repeated entries for listed species inhabiting the proposed project area.
High intensity:	Selected habitat surveys (approximately 60-80% of area) are conducted with repeated entries for listed species inhabiting the proposed project area.

ATTACHMENT 3:

Conclusions Of Effects For Use In Biological Evaluations and Assessments
USDA Forest Service - Regions 1, 4, and 6
August, 1995

Listed Species:

1. No Effect

   Occurs when a project or activity will not have any "effect", on a listed species, or critical habitat.

2. May Affect - Likely to Adversely Affect (LAA)

   If the determination in the biological assessment is that the project May Affect - Likely to Adversely Affect a listed species or critical habitat, formal consultation must be initiated (50 CFR 402.12). Formal consultation must be requested in writing through the Forest Supervisor (FSM 2670.44) to the appropriate FWS Field Supervisor, or NOAA Fisheries office.

3. May Affect - Not Likely to Adversely Affect (NLAA)

   If it is determined in the biological assessment that there are "effects" to a listed species or critical habitat, but that those effects are not likely to adversely affect listed species or critical habitat, then written concurrence by the FWS or NOAA Fisheries is required to conclude informal consultation (50 CFR 402.13).

4. Beneficial Effect

   Written concurrence is also required from the FWS or NOAA Fisheries if a beneficial effect determination is made.

   Requests for written concurrence must be initiated in writing from the Forest Supervisor to the State Field Supervisor (FWS or NOAA).

Proposed Species:

Whenever serious adverse effects are predicted for a proposed species or proposed critical habitat, conferencing is required with the FWS or NOAA Fisheries.

1. No Effect

When there are "no effects" to proposed species, conferencing is not required with FWS or NOAA.

2. Not Likely to Jeopardize the Continued Existence of the Species or Result in Destruction or Adverse Modification of Proposed Critical Habitat

This conclusion is used where there are effects or cumulative effects, but where such effects would not have the consequence of losing key populations or adversely affecting "proposed critical habitat". No conferencing is required with FWS or NOAA if this conclusion is made. However, for any proposed activity that would receive a "Likely To Adversely Affect" conclusion if the species were to be listed, conferencing may be initiated.

3. Likely to Jeopardize the Continued Existence of the Species or Result in Destruction or Adverse Modification of Proposed Critical Habitat

This conclusion must be determined if there are significant effects that could jeopardize the continued existence of the species, result in adverse modification or destruction of proposed critical habitat, and/or result in irreversible or irretrievable commitments of resources that could foreclose options to avoid jeopardy, should the species be listed. If this is the conclusion, conferencing with FWS or NMFS is required.

Sensitive Species:

1. 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.

2. 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.

3. 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:

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

4. Beneficial Impact (BI)

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

ATTACHMENT 4:

Conclusions Of Effects For Use In Biological Evaluations and Assessments
USDA Forest Service - Regions 1, 4, and 6
August, 1995

Listed Species:

1. No Effect

Occurs when a project or activity will not have any "effect", on a listed species, or critical habitat.

2. May Affect - Likely to Adversely Affect (LAA)

If the determination in the biological assessment is that the project May Affect - Likely to Adversely Affect a listed species or critical habitat, formal consultation must be initiated (50 CFR 402.12). Formal consultation must be requested in writing through the Forest Supervisor (FSM 2670.44) to the appropriate FWS Field Supervisor, or NOAA Fisheries office.

3. May Affect - Not Likely to Adversely Affect (NLAA)

If it is determined in the biological assessment that there are "effects" to a listed species or critical habitat, but that those effects are not likely to adversely affect listed species or critical habitat, then written concurrence by the FWS or NOAA Fisheries is required to conclude informal consultation (50 CFR 402.13).

4. Beneficial Effect

Written concurrence is also required from the FWS or NOAA Fisheries if a beneficial effect determination is made.

Requests for written concurrence must be initiated in writing from the Forest Supervisor to the State Field Supervisor (FWS or NOAA).

Proposed Species:

Whenever serious adverse effects are predicted for a proposed species or proposed critical habitat, conferencing is required with the FWS or NOAA Fisheries.

1. No Effect

When there are "no effects" to proposed species, conferencing is not required with FWS or NOAA.

2. Not Likely to Jeopardize the Continued Existence of the Species or Result in Destruction or Adverse Modification of Proposed Critical Habitat

This conclusion is used where there are effects or cumulative effects, but where such effects would not have the consequence of losing key populations or adversely affecting "proposed critical habitat". No conferencing is required with FWS or NOAA if this conclusion is made. However, for any proposed activity that would receive a "Likely To Adversely Affect" conclusion if the species were to be listed, conferencing may be initiated.

3. Likely to Jeopardize the Continued Existence of the Species or Result in Destruction or Adverse Modification of Proposed Critical Habitat

This conclusion must be determined if there are significant effects that could jeopardize the continued existence of the species, result in adverse modification or destruction of proposed critical habitat, and/or result in irreversible or irretrievable commitments of resources that could foreclose options to avoid jeopardy, should the species be listed. If this is the conclusion, conferencing with FWS or NMFS is required.

Sensitive Species:

1. 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.

2. 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.

3. 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:

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

4. Beneficial Impact (BI)

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