APPENDIX D

Prepared by: /s/ David S. Lebo December 16, 2006
David S. Lebo, Botanist Date

Botanical Biological Evaluation (BE)
Summer Home Residences
Zigzag Ranger District
Mt. Hood National Forest

Introduction

U.S. Forest Service policy requires that all actions be taken to "assure that management activities do not jeopardize the continued existence of sensitive species or result in an adverse modification of their essential habitat" (Forest Service Manual 2670.3). Section 7 of the Endangered Species Act of 1973 (as amended in 1978, 1979, and 1982) directs federal departments/agencies to assure that actions authorized, funded, and/or conducted by them are not likely to jeopardize the continued existence of any threatened or endangered species or result in destruction or adverse modification of their critical habitat. The Act also directs each federal agency to confer or consult with the appropriate Secretary on any action that is likely to jeopardize or affect the continued existence of any species or its habitat. All Forest Service projects, programs, and activities require review and documentation of possible effects on Proposed Endangered, Threatened, or Sensitive (PETS) species (FSM 2672.4). To comply with these directions and policies, a biological evaluation must be performed for all ground-disturbing activities on federal lands.

A 5-step process is used to summarize assessment procedures for PETS species currently listed on the Regional Forester's Sensitive Species List for the Mt. Hood National Forest (FSM 2672.4). The PETS species addressed during this process were based on the Regional Forester's Sensitive Species List for Region 6 (last revised 07-21-2004) and the current U.S. Fish and Wildlife Service (USFWS) Federal Species List.

The 5-step process consists of (1) a 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 PETS species; and (5), if needed (due to lack of information), a biological investigation.

A determination of No Impact for PETS species can be made at any step in the process, at which time the biological evaluation is complete. If the results of the biological evaluation indicate that there may be an effect to proposed or listed species, conferencing or informal/formal consultation with the USFWS, as outlined in FSM 2673.2, would be initiated.

Project Description and Rationale

Long-term lease renewals for the 554 lots in the ten summer home tracts located in the Zigzag-Rhododendron area are currently being evaluated and are dependent on consistency and compliance with standards and guidelines in the Forest Plan for the Mt. Hood National Forest. The Summer Home Consistency Review assesses whether the tracts are currently consistent with standards and guidelines designed to protect and conserve natural resources (wildlife, fisheries, native plant communities, rare plants, water quality), the historical character of homes and cabins, and the natural, wild, and scenic quality of the forests, rivers, and creeks within the tracts. Additionally, the review will determine whether individual lots in the tracts comply with the standards and guidelines, and, if not, what corrective measures need to be taken by homeowners to comply.

Native Plant Communities

The summer home tracts lie at an elevation of roughly 1,400 to 2,000 ft., most lying within the western hemlock vegetation zone with tracts at higher elevations bordering the Pacific silver fir zone, which begins at roughly 2,500 to 3,000 ft.. Native plant communities in the tracts consist of dense, moist forests of western hemlock (*Tsuga heterophylla*), Douglas-fir (*Pseudotsuga menziesii*), Pacific silver fir (*Abies amabilis*), western red cedar (*Thuja plicata*), and lodgepole pine (*Pinus contorta*). Dominant hardwood tree species in the tracts include red alder (*Alnus rubra*), bigleaf maple (*Acer macrophyllum*), vine maple (*Acer circinatum*), and hazelnut (*Corylus cornuta*). Dominant understory shrubs include rhododendron (*Rhododendron macrophyllum*), Oregon grape (*Berberis nervosa*), salal (*Gaultheria shallon)*, and several species of huckleberries (*Vaccinium alaskaense, V. membranaceum, V. ovalifolium,* and *V. parvifolium*).

PETS Botanical Species

Proposed endangered, threatened, and sensitive (PETS) species are rare vascular plants, brophytes, lichens, and fungi on the Regional Forester's Sensitive Species list (USDA Forest Service, Pacific Northwest, Region 6). In 2004, 80 fungi, lichens, and bryophytes were added to the Regional Forester's Sensitive Species list following the ROD (Record of Decision, 2004) to remove or modify the Survey and Manage component of the Northwest Forest Plan. Seventy plant species on the Regional Forester's Sensitive Species list are documented or suspected to occur within the Mt. Hood National Forest and adjacent Columbia River Gorge National Scenic Area (32 vascular plants, 19 fungi, 15 lichens, and 4 bryophytes).

Step 1: Pre-field Review of Existing Information: Management proposals are investigated to determine whether potential habitat for PETS botanical species may exist in the summer home tracts. Sources used include the Oregon Natural Heritage Database of rare species, the sensitive species plant databases for the Mt. Hood National Forest, the Interagency Species Management System (ISMS), the Known Site Survey database, scientific literature, aerial photos, topographic maps, and knowledge provided by individuals familiar with the Forest. Survey and Manage species are discussed separately in a later section.

Table 1. PETS botanical species documented or suspected to occur within the Mt. Hood National Forest.

Vascular Plants	**Common Name**	**Documented or Suspected**
Agoseris elata	Tall agoseris	**Yes**
Arabis sparsiflora var. *atrorubens*	Sicklepod rockcress	**Yes**
Aster gormanii	Gorman's aster	**Yes**
Astragalus tyghensis	Tygh Valley milkvetch	**Yes**
Botrychium lanceolatum	Lance-leaved grape fern	**Yes**
Botrychium minganense	Mingan moonwort	**Yes**
Botrychium montanum	Mountain grape fern	**Yes**
Botrychium pinnatum	Pinnate grape fern	**Yes**
Calamagrostis breweri	Brewer's reedgrass	**Yes**
Carex livida	Pale sedge	**Yes**
Castilleja thompsonii	Thompson's paintbrush	**Yes**
Cimicifuga elata	Tall bugbane	**Yes**
Coptis trifolia	3-leaflet goldthread	**Yes**
Corydalis aquae-gelidae	Cold-water corydalis	**Yes**
Diphasiastrum complanatum	Ground cedar	**Yes**
Erigeron howellii	Howell's daisy	**Yes**
Howellia aquatilis var. *howellia*	Howellia	**Yes**
Lewisia columbiana var. *columbiana*	Columbia lewisia	**Yes**
Lycopodiella inundata	Bog club-moss	**Yes**
Montia howellii	Howell's montia	**Yes**
Ophioglossum pusillum	Adder's tongue	**Yes**
Phlox hendersonii	Henderson's phlox	**Yes**
Potentilla villosa	Villous cinquefoil	**Yes**
Ranunculus reconditus	Obscure buttercup	**Yes**
Romanzoffia thompsonii	Mistmaiden	**Yes**
Scheuchzeria palustris	Scheuchzeria	**Yes**
Sisyrinchium sarmentosum	Pale blue-eyed grass	**Yes**
Suksdorfia violacea	Violet suksdorfia	**Yes**
Taushia stricklandii	Strickland's taushia	**Yes**
Wolfia boralis	Dotted water-meal	**Yes**
Wolfia columbiana	Water-meal	**Yes**
Bryophytes	**Common Name**	**Documented or Suspected**
Rhizomnium nudum	moss	**Yes**
Schistostega pennata	Green goblin moss	**Yes**
Scouleria marginata	moss	**Yes**
Tetraphis geniculata	Bent-awn moss	**Yes**
Lichens	**Common Name**	**Documented or Suspected**
Chaenotheca subroscida	pin lichen	**Yes**
Dermatocarpon luridum	Brook lichen	**Yes**
Hypogymnia duplicate	Ticker-Tape lichen	**Yes**
Leptogium burnetiae var. *hirsutum*	Jellyskin lichen	**Yes**
Leptogium cyanescens	Blue jellyskin lichen	**Yes**
Lobaria linita	Cabbage lungwort	**Yes**
Nephroma occultum	Cryptic kidney lichen	**Yes**
Pannaria rubiginosa	Brown-eyed shingle lichen	**Yes**
Peltigera neckeri	Black saddle lichen	**Yes**
Peltigera pacifica	Fringed pelt lichen	**Yes**
Pilophorus nigricaulis	Matchstick lichen	**Yes**

Pseudocyphellaria rainierensis	Specklebelly lichen	**Yes**
Ramalina pollinaria	Chalky ramalina	**Yes**
Tholurna dissimilis	Urn lichen	**Yes**
Usnea longissima	Methuselah's beard lichen	**Yes**
Fungi	**Common Name**	**Documented or Suspected**
Bridgeoporus nobilissmus	noble polypore	**Yes**
Cordyceps capitata	earthtongue	**Yes**
Cortinarius barlowensis	mushroom	**Yes**
Cudonia monticola	earthtongue	**Yes**
Gomphus kauffmanii	mushroom	**Yes**
Gyromitra californica	mushroom	**Yes**
Leucogaster citrinus	truffle	**Yes**
Mycena monticola	mushroom	**Yes**
Otidea smithii	cup fungi	**Yes**
Phaeocollybia attenuata	mushroom	**Yes**
Phaeocollybia californica	mushroom	**Yes**
Phaeocollybia olivacea	mushroom	**Yes**
Phaeocollybia oregonensis	mushroom	**Yes**
Phaeocollybia piceae	mushroom	**Yes**
Phaeocollybia pseudofestiva	mushroom	**Yes**
Phaeocollybia scatesiae	mushroom	**Yes**
Ramaria amyloidea	coral fungi	**Yes**
Ramaria gelatiniaurantia	coral fungi	**Yes**
Sowerbyella rhenana	cup fungi	**Yes**

Step 2: Field Reconnaissance

Botanical field surveys for PETS botanical species were conducted in the ten summer home tracts in August 2006. All 554 lots were surveyed. Surveyed macrohabitats included forest, streamsides, and roadsides. Surveyed microhabitats included the forest floor, litterfall, tree boles and branches, decaying logs, stumps, snags, and moss- and lichen-covered rocks.

Survey Results

Except for *Bridgeoporus nobilissimus*, surveys to detect the presence of PETS fungi within the summer home tracts are not considered practical (FEIS 2004) because of the variability in fruiting-body (mushroom, truffle) production from year to year of most fungi, necessitating multiple-year (successive-year) surveys to detect a species' presence. Therefore, PETS fungi other than *B. nobilissimus* were not targeted during field surveys. If surveys determined suitable habitat to be present in the project area for a particular species, however, then it is assumed that the species is likely present. Surveys for *B. nobilissimus* are practical because it produces perennial fruiting bodies on old-growth noble fir and Pacific silver fir stumps, less so on snags, and occasionally on live trees. Other PETS fungi produce ephemeral--so-called fleshy--fruiting-bodies (sporocarps) that decompose after a few weeks or more. Species of fleshy fungi are identified by aboveground or belowground fruiting bodies (e.g., mushrooms, truffles) that do not appear (i.e., fruit) each year. Belowground fruiting bodies are located by lightly raking or digging in the upper surface (organic horizon and immediate sub-horizon) of the forest floor.

For the seventeen Region 6 Sensitive species of fungi identified as having potential habitat in the summer home tracts, a one-time survey is not adequate to detect their presence.

1. *Cordyceps capitata*
2. *Cortinarius barlowensis*
3. *Cudonia monticola*
4. *Gomphus kauffmanii*
5. *Gyromitra californica*
6. *Leucogaster citrinus*
7. *Mycena monticola*
8. *Otidea smithii*
9. *Phaeocollybia attenuata*
10. *Phaeocollybia californica*
11. *Phaeocollybia oregonensis*
12. *Phaeocollybia piceae*
13. *Phaeocollybia pseudofestiva*
14. *Phaeocollybia scatesiae*
15. *Ramaria amyloidea*
16. *Ramaria gelatiniaurantia*
17. *Sowerbyella rhenana*

Step 3: Risk Assessment

The following is an assessment of the status of PETS fungi, documented or suspected on the Mt. Hood National Forest, and potential risks to these species:

1. *Cordyceps capitata* is a widespread but locally rare species documented from 38 sites in the western Cascade Range and Coast Range in Washington, Oregon, and northern California. Two sites are known from the Forest on the Zigzag Ranger District. The species is parasitic on the fruiting body of *Elaphomyces* spp., a genus of belowground-fruiting fungi in the truffle group. *Elaphomyces* are associated with the roots of conifers. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review (no host trees for *Elaphomyces* would be removed), no impact on the species is expected.

2. *Cortinarius barlowensis* is widely distributed, known from 16 sites in the western Cascade Range, Coast Range, and Olympic Mountains of Washington and Oregon. There are two known sites from the Forest on the Zigzag Ranger District. Habitat is soil under conifers. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

3. *Cudonia monticola* is endemic to the Pacific Northwest and grows under conifers in the spring and summer. This earth tongue fungus is scattered to gregarious or grows in dense clusters in humus, soil, and on rotting wood. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

4. *Gomphus kauffmanii* is endemic to western North America and found in California, Oregon, and Washington along the Pacific coast or in the Cascade Range. There are 6 known sites for

this mushroom on the Forest. Host trees for *G. kauffmanii* include true firs and pines. *G. kauffmanii* forms symbiotic associations with the fine-root systems of plants. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

5. *Gyromitra californica* is found from British Columbia south to northern California and east to Colorado, Montana, and Nevada. It is known in Washington, Oregon, and northern California from 35 sites, one of which is on the Forest (Hood River Ranger District). *G. californica* grows on well-rotted stumps and logs of conifers or in soil with rotted wood. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

6. *Leucogaster citrinus* is endemic to the Pacific Northwest with 45 sites known from western Washington, western Oregon, and northern California. There are four sites on the Zigzag Ranger District on the Forest. This truffle (belowground-fruiting) species is associated with the roots of conifers. The proposed action will not remove all host trees, so it is assumed that *L. citrinus* will be able to persist. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

7. *Mycena monticola* is endemic to the Pacific Northwest and is known from a number of sites in the Northwest Forest Plan area, scattered in the western and eastern Cascade Range, the Klamath Mountains, and the Olympic Mountains. On the Forest, one site has been documented (Bear Springs Campground, Barlow Ranger District). *M. monticola* is restricted to conifer forests above 1,000 meters in elevation, particularly those with *Pinus* spp. and usually found in gregarious, caespitose clusters in duff (Castellano et al. 1999). Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

8. *Otidea smithii* is known from 10 scattered sites in western Washington, western Oregon, and northwestern California. One location is known from the Clackamas River Ranger District on the Forest. *O. smithii* grows in soil under Douglas-fir, western hemlock, and cottonwood. Although some host trees might be removed, potentially impacting *Otidea* individuals, other trees will remain continuing to provide substrate for this species. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

9. *Phaeocollybia attenuata* is endemic to the Pacific Northwest with 131 sites known from western Washington and western Oregon to northern California. One site is known from Forest on the Zigzag Ranger District. *P. attenuata* grows in soil under conifers. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

10. *Phaeocollybia californica* is endemic to the Pacific Northwest with 34 sites known from

western Washington, western Oregon, and northern California. No sites are known to occur on the Forest; however, there is a site in the Scenic Area. *P. californica* is terrestrial and associated with the roots of Douglas-fir, western hemlock, and Pacific silver fir. The proposed action will not remove all host trees, so it is assumed that *P. californica* will be able to persist. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

11. *Phaeocollybia oregonensis* is endemic to the Pacific Northwest with 10 sites known from the Oregon Coast Range and the western Cascade Range. On the Forest, there are two sites known from the Zigzag Ranger District. This species is terrestrial and associated with the roots of Douglas-fir, western hemlock, and Pacific silver fir. The proposed action will not remove all host trees, so it is assumed that *P. oregonensis* will be able to persist. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

12. *Phaeocollybia piceae* is endemic to the Pacific Northwest with 49 sites known from western Washington, western Oregon, and northern California. There is one known site on the on the Zigzag Ranger District on the Forest. This species is terrestrial and associated with the roots of Douglas-fir, western hemlock, and Pacific silver fir. The proposed action will not remove all host trees, so it is assumed that *P. piceae* will be able to persist. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

13. *Phaeocollybia pseudofestiva* is endemic to the Pacific Northwest from British Columbia south through western Washington and western Oregon to California. There are 36 known sites in Washington, Oregon, and California, four of which are on the Zigzag Ranger District on the Forest. The species grows in soil under conifers. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

14. *Phaeocollybia scatesiae* is endemic to the Pacific Northwest with 17 sites documented in the Northwest Forest Plan area, three on the Forest (Zigzag Ranger District). This species is associated with the roots of *Abies* spp., *Picea sitchensis*, and *Vaccinium* spp. from sea level to 1,250 meters in elevation (Castellano et al. 1999). Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

15. *Ramaria amyloidea* is endemic to the Pacific Northwest with 16 sites known from western Washington to northern California. Habitat for the species is soil on sites with true fir, Douglas-fir, and western hemlock. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

16. *Ramaria gelatiniaurantia* is endemic to the Pacific Northwest with 24 sites known from western Washington to northern California. Two sites are located on the Clackamas River Ranger District on the Forest,. Habitat for the species is soil on sites with true fir, Douglas-fir, and western hemlock. Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

17. *Sowerbyella rhenana* is found in Europe, Japan, and northwest North America. In the Pacific Northwest, it is known from 55 sites in western Washington, western Oregon, and northern California, including two sites from the Forest on the Clackamas River and Zigzag Ranger Districts. Habitat for the species is soil under conifers. One collection was found under tanoak (*Lithocarpus densiflorus*). Soil compaction could have a localized negative impact on individuals. Since there are no ground- or habitat-disturbing activities associated with the summer home consistency review, no impact on the species is expected.

Table 3 displays the effect of the proposed action on PETS species identified in Step 1 as having potential habitat in the summer home tracts.

Table 3. Biological Evaluation Process Summary by Species

SPECIES	Step #1 Prefield Review Habitat present?	Step #2 Field Reconn. Species present?	Step #3 Conflict Determination Conflict?	Step #4 Analysis of Effects Important?	Step #5 Biological Investigation Needed?
Vascular Plants					
Agoseris elata	No	No	No Impact	N/A	N/A
Arabis sparsiflora var. *atrorubens*	No	No	No Impact	N/A	N/A
Aster gormanii	No	No	No Impact	N/A	N/A
Astragalus tyghensis	No	No	No Impact	N/A	N/A
Botrychium lanceolatum	No	No	No Impact	N/A	N/A
Botrychium minganense	No	No	No Impact	N/A	N/A
Botrychium montanum	No	No	No Impact	N/A	N/A
Botrychium pinnatum	No	No	No Impact	N/A	N/A
Calamagrostis breweri	No	No	No Impact	N/A	N/A
Carex livida	No	No	No Impact	N/A	N/A
Castilleja thompsonii	No	No	No Impact	N/A	N/A
Cimicifuga elata	**Yes**	No	No Impact	N/A	N/A
Coptis trifolia	No	No	No Impact	N/A	N/A
Corydalis aquae-gelidae	**Yes**	No	No Impact	N/A	N/A
Diphasiastrum complanatum	No	No	No Impact	N/A	N/A
Erigeron howellii	No	No	No Impact	N/A	N/A
Howellia aquatilis var. *howellia*	No	No	No Impact	N/A	N/A
Lewisia columbiana var. *Columbiana*	No	No	No Impact	N/A	N/A
Lycopodiella inundata	No	No	No Impact	N/A	N/A

Montia howellii	No	No	No Impact	N/A	N/A
Ophioglossum pusillum	No	No	No Impact	N/A	N/A
Phlox hendersonii	No	No	No Impact	N/A	N/A
Phlox villosa	No	No	No Impact	N/A	N/A
Ranunculus reconditus	No	No	No Impact	N/A	N/A
Romanzoffia thompsonii	No	No	No Impact	N/A	N/A
Scheuchzeria palustris var. *americana*	No	No	No Impact	N/A	N/A
Sisyrinchium sarmentosum	No	No	No Impact	N/A	N/A
Suksdorfia violacea	No	No	No Impact	N/A	N/A
Tauschia stricklandii	No	No	No Impact	N/A	N/A
Wolfia borealis	No	No	No Impact	N/A	N/A
Wolfia Columbiana	No	No	No Impact	N/A	N/A
Bryophytes					
Rhizomnium nudum	**Yes**	No	No Impact	N/A	N/A
Schistostega pennata	**Yes**	No	No Impact	N/A	N/A
Scouleria marginata	**Yes**	No	No Impact	N/A	N/A
Tetraphis geniculata	**Yes**	No	No Impact	N/A	N/A
Lichens					
Chaenotheca subroscida	**Yes**	No	No Impact	N/A	N/A
Dermatocarpon luridum	**Yes**	No	No Impact	N/A	N/A
Hypogymnia duplicata	**Yes**	No	No Impact	N/A	N/A
Leptogium burnetiae var. *hirsutum*	**Yes**	No	No Impact	N/A	N/A
Leptogium cyanescens	**Yes**	No	No Impact	N/A	N/A
Lobaria linita	**Yes**	No	No Impact	N/A	N/A
Nephroma occultum	**Yes**	No	No Impact	N/A	N/A
Pannaria rubiginosa	**Yes**	No	No Impact	N/A	N/A
Peltigera neckeri	**Yes**	No	No Impact	N/A	N/A
Peltigera pacifica	**Yes**	**Yes**	No Impact	**Yes**	N/A
Pilophorus nigricaulis	**Yes**	No	No Impact	N/A	N/A
Pseudocyphellaria rainierensis	**Yes**	No	No Impact	N/A	N/A
Ramalina pollinaria	**Yes**	No	No Impact	N/A	N/A
Tholurna dissimilis	No	No	No Impact	N/A	N/A
Usnea longissima	**Yes**	**Yes**	No Impact	**Yes**	No
Fungi					
Bridgeoporus nobilissimus	**Yes**	No	No Impact	N/A	N/A
Cordyceps capitata	**Yes**	Assumed Presence	No Impact	N/A	N/A
Cortinarius barlowensis	**Yes**	Assumed Presence	No Impact	N/A	N/A
Cudonia monticola	**Yes**	Assumed Presence	No Impact	N/A	N/A
Gomphus kauffmanii	**Yes**	Assumed Presence	No Impact	N/A	N/A

Gyromitra californica	**Yes**	Assumed Presence	No Impact	N/A	N/A
Leucogaster citrinus	**Yes**	Assumed Presence	No Impact	N/A	N/A
Mycena monticola	**Yes**	Assumed Presence	No Impact	N/A	N/A
Otidea smithii	**Yes**	Assumed Presence	No Impact	N/A	N/A
Phaeocollybia attenuata	**Yes**	Assumed Presence	No Impact	N/A	N/A
Phaeocollybia californica	**Yes**	Assumed Presence	No Impact	N/A	N/A
Phaeocollybia oregonensis	**Yes**	Assumed Presence	No Impact	N/A	N/A
Phaeocollybia piceae	**Yes**	Assumed Presence	No Impact	N/A	N/A
Phaeocollybia pseudofestiva	**Yes**	Assumed Presence	No Impact	N/A	N/A
Phaeocollybia scatesciae	**Yes**	Assumed Presence	No Impact	N/A	N/A
Ramaria amyloidea	**Yes**	Assumed Presence	No Impact	N/A	N/A
Ramaria gelatiniaurantia	**Yes**	Assumed Presence	No Impact	N/A	N/A
Sowerbyella rhenana	**Yes**	Assumed Presence	No Impact	N/A	N/A

Survey Results

Special-Status (Rare) Species

Two rare botanical species were found in the summer home tracts: *Peltigera pacifica* (Fringed pelt) and *Usnea longissima* (Methuselah's Beard). Both are lichens on the Regional Forester's Sensitive Species list and the Northwest Forest Plan's Survey and Manage list. *P. pacifica* is a terrestrial lichen, growing on moss on the ground, rocks, or decaying logs. *U. longissima* is an epiphytic lichen that grows and hangs from the branches of trees. The table below displays the number of lots in each tract containing *P. pacifica* and *U. longissima*.

Tracts	**Species**	**Number of Sites/Lots**
Camp Creek	*Peltigera pacifica*	37
	Usnea longissima	9
Cool Creek	*Peltigera pacifica*	3
	Usnea longissima	0
Flag Mountain	*Peltigera pacifica*	5

	Usnea longissima	8
Mile Bridge	*Peltigera pacifica*	25
	Usnea longissima	2
Old Oregon Trail	*Peltigera pacifica*	0
	Usnea longissima	0
Organization Camp	*Peltigera pacifica*	2
	Usnea longissima	0
Still Creek	*Peltigera pacifica*	2
	Usnea longissima	0
Tollgate	*Peltigera pacifica*	3
	Usnea longissima	1
Vine Maple Grove	*Peltigera pacifica*	3
	Usnea longissima	10
Zigzag	*Peltigera pacifica*	3
	Usnea longissima	0

Invasive Plants

Invasive plants can threaten rare botanical species, overrun native plants, and alter native plant communities. Invasive plants are able to outcompete native plants because (a) associated predators (herbivores, insects, and disease) from their place of origin (Europe and Asia) are lacking in North America and because of (b) their fecundity (high reproductive rate). Many invasive plant species are able to reproduce sexually (by seed) or asexually (vegetatively from rhizomes, stolons, or root and stem fragments). For a more detailed discussion, see the Invasive Plant/Noxious Weed Risk Assessment for the summer home residences.

Invasive plant species that are common and widespread in the western Oregon Cascade Range (e.g., Scotch broom, tansy ragwort, common tansy, St. Johns-wort, oxeye daisy, cats-ear) are also common and widespread in the summer home tracts. Only a few tracts contain the highly invasive species, Japanese knotweed (Cool Creek and Vine Maple Grove) and orange hawkweed (Zigzag). Nine of the ten tracts contain English ivy.

The Japanese knotweed sites would be targeted for herbicide treatment following approval of the *Site-Specific Invasive Plant Treatments EIS (Environmental Impact Statement) for the Mt. Hood National Forest and Columbia River Gorge National Scenic Area,* which analyzes the use of ten herbicides. Herbicide treatment of Japanese and other invasive knotweed species is currently the only treatment known to be effective against invasive knotweed species. Manual and mechanical treatments of Japanese and other invasive knotweeds risk spreading plants because of their ability to reproduce from rhizomes (underground stems) or stem and root fragments. The orange hawkweed site found in the Zigzag tract is a small population. Individuals were handpulled during surveys in August 2006; however, the site will require monitoring in successive years to determine if new plants sprout from rhizomes and stolons (aboveground stems). English ivy can

be handpulled, but requires successive years of treatment.

Three Excel spreadsheets have been prepared that summarize the results of the plant surveys conducted in the summer home tracts in August 2006. One lists all the invasive and rare plant species found in each lot within each tract. Another summarizes the number of lots in each tract that contain respective invasive and rare plant species. And the final spreadsheet contains a list of all plant species (scientific and common names) found during the surveys.

Recommendations

* Protection of extant *Peltigera pacifica* and *Usnea longissima* sites or other PETS botanical species found in the future in the summer home tracts is required.

* Cabin owners need to be educated about invasive plants and the threat that they pose to native plant communities.

* Cabin owners should ***not*** plant or cultivate nonnative, invasive, or ornamental landscaping plant species on their lots.

* Cabin owners should only plant native species that are indigenous to the area.

* Cabin owners can do their part to reduce the introduction and spread of invasive plants by inspecting and cleaning their vehicles and other equipment after driving through areas that contain invasive plants (e.g., road shoulders, gravel roads, disturbed ground). Cleaning of vehicles (using pressurized water) is recommended. Leaves, stems, roots, or seeds of invasive plants can attach themselves to vehicles (especially the undercarriage, wheels, tires, and front grille). Many invasive plant species can reproduce from stem fragments, root fragments, or seed transported on vehicles.

* Cabin owners are prohibited from planting or cultivating non-native plants on their lots.

* Cabin owners are required to remove non-native plants (including invasive plants and noxious weeds) from their lots.

Summary

<u>Vascular plants, bryophytes, lichens, and fungi</u> - No ground- or habitat-disturbing action is proposed as part of the summer home consistency review. Therefore, there will be no impact on individuals or the habitat of PETS botanical species (vascular plants, bryophytes, lichens, and fungi).

_X__ No Impact

Invasive plants and noxious weeds - The Proposed Action to reissue permits for continued recreation residence use has the potential to introduce invasive plants and noxious weeds to the project area. However with the Recommendations listed above the potential spread of invasive plants and noxious weeds is low.

_X__ No Impact

The Botanical Biological Evaluation is complete.

Prepared by: _/s/ *David S. Lebo*_____ ____December 16, 2006___
David S. Lebo Date
Westside Zone Botanist
Mt. Hood National Forest

Survey and Manage (S&M) - Specialist Report

The table below lists S&M species that are known or suspected within the Mt. Hood National Forest. Two S&M species, *Peltigera pacifica* and *Usnea longissima*, both lichens, were found in the summer home tracts. Pre-disturbance (pre-treatment) surveys are only required for Category A and C species (BLM-Instruction Memorandum No. OR-2006-027, Feb. 8, 2006). *Bridgeoporus nobilissimus* is the only Category A species of fungi. There are no Category C species of fungi and all the other S&M fungi are Category B, D, or F species.

For Category B S&M species, equivalent-effort surveys (essentially pre-disturbance surveys) are required for ground- or habitat-disturbing activities in old-growth forest; however, S&M Category B fungi are exempt from pre-disturbance and equivalent-effort surveys until the year 2011 (Memorandum No. OR-2006-027). Equivalent-effort surveys would be required for Category B vascular plants, bryophytes, and lichens, however. Neither pre-disturbance nor equivalent-effort surveys are required for Category D, E, and F species.

All known sites of Category A, B, and E species must be managed. Only high-priority sites of Category C and D species must be managed. Known sites of Category F species do not require any management. *Peltigera pacifica* is a Category E species. *Usnea longissima* is a Category F species.

Table 4. Survey and Manage Species Known within the Mt. Hood National Forest and Columbia River Gorge National Scenic Area.

FUNGI	Category
Albatrellus flettii, In Washington and California	B
Alpova alexsmithii	B
Baeospora myriadophylla	B
Bondarzewia mesenterica (Bondarzewia montana), In Washington and California	B
Bridgeoporus nobilissimus (Oxyporus nobilissimus)	A
Cantharellus subalbidus, In Washington and California	D
Chalciporus piperatus (*Boletus piperatus*)	D
Choiromyces alveolatus	B
Clavariadelphus ligula	B
Clavariadelphus occidentalis (*Clavariadelphus pistillaris*)	B

Clavariadelphus truncatus (syn. *Clavariadelphus borealis*)	D
Collybia racemosa	B
Cortinarius boulderensis	B
Cortinarius olympianus	B
Cortinarius wiebeae	B
Cudonia monticola	B
Gastroboletus rubber	B
Gastroboletus subalpinus	B
Gelatinodiscus flavidus	B
Gomphus bonarii	B
Gomphus clavatus	F
Gomphus kauffmanii	E
Gymnomyces abietis (*Gymnomyces* sp. nov. #Trappe 1690, 1706, 1710; *Gymnomyces* sp. nov. #Trappe 4703, 5576; *Gymnomyces* sp. nov. #Trappe 5052; *Gymnomyces* sp. nov. #Trappe 7545; *Martellia* sp. nov. #Trappe 1700; *Martellia* sp. nov. #Trappe 311; *Martellia* sp. nov. #Trappe 5903)	B
Gyromitra californica	B
Helvella crassitunicata	B
Helvella elastica	B
Leucogaster microsporus	B
Otidea leporine	D
Otidea smithii	B
Phaeocollybia fallax	D
Phaeocollybia kauffmanii	D
Phaeocollybia olivacea, In Oregon	F
Phaeocollybia oregonensis (syn. *Phaeocollybia carmanahensis*)	B
Phaeocollybia pseudofestiva	B
Phaeocollybia scatesiae	B
Pholiota albivelata	B
Polyozellus multiplex	B
Ramaria araiospora	B
Ramaria aurantiisiccescens	B
Ramaria celerivirescens	B
Ramaria cyaneigranosa	B
Ramaria maculatipes	B
Ramaria rubripermanens In Oregon	D
Ramaria stuntzii	B
Rhizopogon brunneiniger	B
Rhizopogon evadens var. *subalpinus*	B
Russula mustelina	B
Sowerbyella rhenana (Aleuria rhenana)	B
Sparassis crispa	D
LICHENS	
Bryoria subcana	B
Calicium abietinum	B
Calicium adspersum	E
Chaenotheca chrysocephala	B
Chaenotheca ferruginea	B
Chaenotheca subroscida	E
Chaenothecopsis pusilla	E
Dendriscocaulon intricatulum, Rest of Oregon outside of Coos, Curry, Douglas, Josephine, & Jackson Counties; WA	A
Dermatocarpon luridum	E
Fuscopannaria saubinetii (= *Pannaria saubinetii*)	E
Hypogymnia duplicate	C

Leptogium burnetiae var. hirsutum	E
Leptogium cyanescens	A
Leptogium rivale	E
Leptogium teretiusculum	E
Lobaria linita, var. *tenuoir*, In WA WL, WA WC south of Snoqualmie Pass, WA EC; OR	A
Microcalicium arenarium	B
Nephroma bellum, In OR; Klamath, Willamette Valley, Eastern Cascades; WA; Western Cascades (outside GPNF), Eastern Cascades, Olympic Peninsula Physiographic Provinces	E
Nephroma occultum	C
Pannaria rubiginosa	E
Peltigera pacifica	E
Platismatia lacunosa, all except Oregon Coast Range	E
Pseudocyphellaria rainierensis	A
Stenocybe clavata	E
Tholurna dissimilis, south of Columbia River	B
Usnea longissima, In Oregon, except in Curry, Josephine, and Jackson Counties and in Washington	F
BRYOPHYTES	
Diplophyllum plicatum	B
Marsupella emarginata v. aquatica	B
Racomitrium aquaticum	E
Rhizomnium nudum	B
Schistostega pennata	A
Tetraphis geniculata	A
Tritomaria exsectiformis	B
Tritomaria quinquedentata	B
VASCULAR PLANTS	
Botrychium minganense, In Oregon and California	A
Botrychium montanum	A
Coptis asplenifolia	A
Coptis trifolia	A
Corydalis aquae-gelidae	A
Cypripedium fasciculatum, WA outside Eastern Cascades; OR; CA	C
Cypripedium montanum, Entire range except Washington Eastern Cascades Physiographic Province	C
Galium kamtschaticum, Olympic Peninsula, WA Eastern Cascades, OR & WA Western Cascades Physiographic Provinces, south of Snoqualmie Pass	A
Platanthera orbiculata var. *orbiculata* (syn. *Habenaria orbiculata*)	C

Coptis asplenifolia, *Galium kamschaticum*, and *Platanthera orbiculata* var. *orbiculata* occur in western Washington (north of Snoqualmie Pass) but have not been found on the Mt. Hood National Forest; however, it is possible that these species may occur within the Bull Run Watershed and other areas on the Forest that have a cooler and wetter climate similar to that of northwestern Washington.

In summary, there is no ground- or habitat-disturbing action associated with the summer home permit renewal process. Therefore, no impact on Survey and Manage botanical species is expected.

Prepared by: /s/ David S. Lebo December 16, 2006
David S. Lebo Date
Westside Zone Botanist
Mt. Hood National Forest

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Appendix A

PETS botanical species that are known or suspected to occur within the Mt. Hood National Forest and have potential habitat within the summer home tracts.

TABLE 1.

Region 6 Sensitive Plant Species Documented or Suspected within the Mt. Hood National Forest and Columbia River Gorge National Scenic Area				
Vascular Plants				
Species	**Common Name**	**General Habitat**	**Survey Period**	**Potential Habitat in Project Area?**
Agoseris elata	Tall agoseris	Moist-dry meadow	June-Aug	No
Arabis sparsiflora var. *atrorubens*	Sicklepod rockcress	Dry meadow, shrub-steppe	May-Aug	No
Aster gormanii	Gorman's aster	Dry cliffs, talus, rock slopes above 3,500 ft. elevation	June-Sept	No
Astragalus tyghensis	Tygh Valley milkvetch	Shrub-steppe grassland	May-Aug	No
Botrychium lanceolatum	Lance-leaved grape fern	Sub-alpine meadow, glacial till	July-Sept	No
Botrychium minganense	Mingan moonwort	Forested wetlands	June-Sept	No
Botrychium montanum	Mountain grape-fern	Forested wetlands	June-Sept	No
Botrychium pinnatum	Pinnate grape fern	Forested wetlands	June-Sept	No
Calamagrostis breweri	Brewer's reedgrass	Sub-alpine, moist–dry meadows	June- Sept	No
Carex livida	Pale sedge	Wet-dry meadow, fen	June-Sept	No

Castilleja thompsonii	Thompson's paintbrush	Rock outcrops east of the crest of the Cascade Range	July-Aug	No
Cimicifuga elata	Tall bugbane	Mesic mixed hardwood/ conifer forest	June-Sept	**Yes**
Coptis trifolia	3-leaflet goldthread	Edge of forested fens	June-July	No
Corydalis aquae-gelidae	Cold water corydalis	Forested seeps and streams	June-Sept	**Yes**

Diphasiastrum complanatum	Ground cedar	Open conifer forest	Apr-Nov	No
Erigeron howellii	Howell's daisey	Moist-dry cliffs, talus, rocky slopes	June-Sept	No
Howellia aquatilis var. howellia	Howellia	Low-elevation lakes and ponds	June- Sept	No
Lewisia columbiana var. *columbiana*	Columbia lewisia	Dry cliffs, talus, rocky Slopes	June-Sept	No
Lycopodiella inundata	Bog club-moss	Wet meadows and bogs	July-Sept	No
Montia howellii	Howell's montia	Moist-dry open lowland forest	April-July	No
Ophioglossum pusillum	Adder's tongue	Wet-moist meadow	June-Sept	No
Phlox hendersonii	Henderson's phlox	Sub-alpine, dry, rocky, Scree	July-Sept	No
Potentilla villosa	Villous cinquefoil	Sub-alpine, dry, rocky, scree	July-Sept	No
Ranunculus reconditus	Obscure buttercup	Shrub-steppe grasslands	April-June	No
Romanzoffia thompsonii	Mistmaiden	Vernally wet cliffs	April-June	No
Scheuchzeria palustris var.americana	Scheuchzeria	Wet meadow, bog, fen	June-Sept	No
Sisyrinchium sarmentosum	Pale blue-eyed grass	Moist-dry meadow	June-Aug	No
Suksdorfia violacea	violet suksdorfia	Moist cliffs, talus, rocky slopes	May-July	No
Taushia stricklandii	Strickland's taushia	Moist-dry meadow	June-Sept	No
Wolffia borealis	Dotted water-meal	Pond, lake, gently flowing water	May-Sept	No
Wolffia columbiana	Water-meal	Pond, lake, gently flowing water	May-Sept	No
Bryophytes				
Rhizomnium nudum	Moss	Moist mineral soil in forest 3,000 – 5,000 ft. in elevation	June - Oct	**Yes**
Schistostega pennata	Green goblin moss	Moist mineral soil on rootwads	June- Oct	**Yes**
Scouleria marginata	Moss	Rock and boulders in streams	May - Nov	**Yes**
Tetraphis geniculata	Bent-awn moss	Large downed wood in old-growth forest	May- Oct	**Yes**
Lichens				
Chaenotheca subroscida	pin lichen	Boles of live trees and snags in moist forest	May-Nov	**Yes**
Dermatocarpon luridum	Brook lichen	Rock submerged in streams	May-Nov	**Yes**
Hypogymnia duplicata	Ticker-tape lichen	Conifer boles where > 90 inches of annual	May - Oct	**Yes**

		precipitation; old-growth associate		
Leptogium burnetiae var. *hirsutum*	Jellyskin lichen	Bark of deciduous trees, decaying logs, and moss on rock	May-Nov	**Yes**
Leptogium cyanescens	Blue jellyskin lichen	Moss and bark of deciduous trees	May-Nov	**Yes**
Lobaria linita	Cabbage lungwort	Lower bole of conifers /often mossy boulders	May-Nov	**Yes**
Nephroma occultum	Cryptic kidney lichen	Tree boles and branches in older forest habitat; old-growth associate	May-Nov	**Yes**
Pannaria rubiginosa	Brown-eyed shingle lichen	Conifer/deciduous tree bark in moist forest habitat	May-Nov	**Yes**
Peltigera neckeri	Black saddle lichen	Many substrates in moist forest	May-Nov	**Yes**
Peltigera pacifica	Fringed pelt lichen	On moss in moist forest habitats	May-Nov	**Yes**
Pilophorus nigricaulis	Matchstick lichen	Rock on cool north-facing slopes	May-Nov	**Yes**
Pseudocyphellaria rainierensis	Specklebelly lichen	Boles of hardwoods and conifers in older forests; old-growth associate	May-Nov	**Yes**
Ramalina pollinaria	Chalky ramalina	Bark in moist low-elevation habitats	May-Nov	**Yes**
Tholurna dissimilis	Urn lichen	Branches of krummolz at moderate to high elevation	Jun-Oct	No
Usnea longissima	Methuselah's beard lichen	Branches of conifers and hardwoods in moist forest	Apr-Nov	**Yes**
Fungi				
Bridgeoporus nobilissimus	noble polypore	Large true fir snags	May-Nov	**Yes**
Cordyceps capitata	Earthtongue	Parasitic on truffles (*Elaphomyces* spp.)	Sept-Oct	**Yes**
Cortinarius barlowensis	Mushroom	Montane coniferous forest to 4,000 ft. elevation	Sept-Nov	**Yes**
Cudonia monticola	Earthtongue	Spruce needles and coniferous debris	Aug-Nov	**Yes**
Gomphus kauffmanii	Mushroom	Terrestrial in deep humus under pine and true fir	Sep-Nov	**Yes**
Gyromitra californica	Mushroom	On/adjacent to rotted confer stumps/logs.	June	**Yes**
Leucogaster citrinus	Truffle	Associated with roots of conifers, up to 6,600 ft.	Aug-Nov	**Yes**

		elevation		
Mycena monticola	Mushroom	Terrestrial in conifer forest above 3,300 ft. elevation	Aug-Nov	**Yes**
Otidea smithii	cup fungi	Under cottonwood, D-fir, and w. hemlock	Aug-Dec	**Yes**
Phaeocollybia attenuata	Mushroom	Terrestrial in conifer forest	Oct-Nov	**Yes**
Phaeocollybia californica	Mushroom	With silver fir, D-fir, and w. hemlock	May, Oct-Nov	**Yes**
Phaeocollybia olivacea	Mushroom	Terrestrial in low-elevation conifer forest	Oct-Nov	**Yes**
Phaeocollybia oregonensis	Mushroom	Associated with roots of silver fir, D-fir, and w. hemlock	Oct-Nov	**Yes**
Phaeocollybia piceae	Mushroom	Terrestrial with true fir, D-fir, and w. hemlock	Oct-Nov	**Yes**
Phaeocollybia pseudofestiva	Mushroom	Under mixed conifers and hardwoods	Oct-Dec	**Yes**
Phaeocollybia scatesiae	Mushroom	With true fir and *Vaccinium* spp	May, Oct-Nov	**Yes**
Ramaria amyloidea	coral fungi	Terrestrial under true fir, D-fir, and w. hemlock	Sep.-Oct.	**Yes**
Ramaria gelatiniaurantia	coral fungi	Terrestrial under true fir, D-fir, and w. hemlock	Oct.	**Yes**
Sowerbyella rhenana	cup fungi	Terrestrial under conifers	Oct.-Dec.	**Yes**

Table 3. Revised Survey and Manage Species List Resulting from the 2003 Annual Species Review (ASR) Process.

Table 1-1. Species Included in Survey and Manage Standards and Guidelines and Category Assignment (December 2003)		
TAXA GROUP ***Species***	*Note*: Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).	**Category**
FUNGI		
Acanthophysium farlowii (Aleurodiscus farlowii)		B
Albatrellus avellaneus		B
Albatrellus caeruleoporus		B
Albatrellus ellisii		B
Albatrellus flettii, In Washington and California		B
Alpova alexsmithii		B
Alpova olivaceotinctus		B
Arcangeliella camphorata (*Arcangeliella* sp. nov. #Trappe 12382; *Arcangeliella* sp. nov. #Trappe 12359)		B
Arcangeliella crassa		B
Arcangeliella lactarioides		B
Asterophora lycoperdoides		B
Asterophora parasitica		B
Baeospora myriadophylla		B
Balsamia nigrens (Balsamia nigra)		B
Boletus haematinus		B

Boletus pulcherrimus	B
Bondarzewia mesenterica (Bondarzewia montana), In Washington and California	B
Bridgeoporus nobilissimus (Oxyporus nobilissimus)	A
Cantharellus subalbidus, In Washington and California	D
Catathelasma ventricosa	B
Chalciporus piperatus (*Boletus piperatus*)	D
Chamonixia caespitosa (*Chamonixia pacifica* sp. nov. #Trappe #12768)	B
Choiromyces alveolatus	B
Choiromyces venosus	B
Chroogomphus loculatus	B
Chrysomphalina grossula	B
Clavariadelphus ligula	B
Clavariadelphus occidentalis (*Clavariadelphus pistillaris*)	B
Clavariadelphus sachalinensis	B
Clavariadelphus subfastigiatus	B
Clavariadelphus truncatus (syn. *Clavariadelphus borealis*)	D
Clavulina castanopes var. *lignicola* (*Clavulina ornatipes*)	B
Clitocybe senilis	B
Clitocybe subditopoda	B
Collybia bakerensis	F
Collybia racemosa	B
Cordyceps ophioglossoides	B
Cortinarius barlowensis (syn. *Cortinarius azureus*)	B
Cortinarius boulderensis	B
Cortinarius cyanites	B
Cortinarius depauperatus (*Cortinarius spilomeus*)	B
Cortinarius magnivelatus	B
Cortinarius olympianus	B
Cortinarius speciosissimus (Cortinarius rainierensis)	B
Cortinarius tabularis	B
Cortinarius umidicola (Cortinarius canabarba)	B
Cortinarius valgus	B
Cortinarius variipes	B
Cortinarius verrucisporus	B
Cortinarius wiebeae	B
Cudonia monticola	B
Cyphellostereum laeve	B
Dermocybe humboldtensis	B
Destuntzia fusca	B
Destuntzia rubra	B
Dichostereum boreale (Dichostereum granulosum)	B
Elaphomyces anthracinus	B
Elaphomyces subviscidus	B
Endogone acrogena	B
Endogone oregonensis	B
Entoloma nitidum (Rhodocybe nitida)	B
Fayodia bisphaerigera (Fayodia gracilipes)	B
Fevansia aurantiaca (Alpova sp. nov. # Trappe 1966) (*Alpova aurantiaca*)	B
Galerina cerina	B
Galerina heterocystis	E
Galerina sphagnicola	E
Gastroboletus imbellus	B
Gastroboletus ruber	B

Gastroboletus subalpinus	B
Gastroboletus turbinatus	B
Gastroboletus vividus (*Gastroboletus* sp. nov. #Trappe 2897; *Gastroboletus* sp. nov. #Trappe 7515)	B
Gastrosuillus amaranthii (*Gastrosuillus* sp. nov. #Trappe 9608)	E
Gastrosuillus umbrinus (*Gastroboletus* sp. nov. #Trappe 7516)	B
Gautieria magnicellaris	B
Gautieria otthii	B
Gelatinodiscus flavidus	B
Glomus radiatum	B
Gomphus bonarii	B
Gomphus clavatus	F
Gomphus kauffmanii	E
Gymnomyces abietis (*Gymnomyces* sp. nov. #Trappe 1690, 1706, 1710; *Gymnomyces* sp. nov. #Trappe 4703, 5576; *Gymnomyces* sp. nov. #Trappe 5052; *Gymnomyces* sp. nov. #Trappe 7545; *Martellia* sp. nov. #Trappe 1700; *Martellia* sp. nov. #Trappe 311; *Martellia* sp. nov. #Trappe 5903)	B
Gymnomyces nondistincta (*Martellia* sp. nov. #Trappe 649)	B
Gymnopilus punctifolius, In California	B
Gyromitra californica	B
Hebeloma olympianum (Hebeloma olympiana)	B
Helvella crassitunicata	B
Helvella elastica	B
Hydnotrya inordinata (*Hydnotrya* sp. nov. #Trappe 787, 792)	B
Hydnotrya subnix (Hydnotrya subnix sp. nov. #Trappe 1861)	B
Hydropus marginellus (Mycena marginella)	B
Hygrophorus caeruleus	B
Hygrophorus karstenii	B
Hygrophorus vernalis	B
Hypomyces luteovirens	B
Leucogaster citrinus	B
Leucogaster microsporus	B
Macowanites chlorinosmus	B
Macowanites lymanensis	B
Macowanites mollis	B
Marasmius applanatipes	B
Martellia fragrans	B
Martellia idahoensis	B
Mycena hudsoniana	B
Mycena overholtsii	D
Mycena quinaultensis	B
Mycena tenax	B
Mythicomyces corneipes	B
Neolentinus adhaerens	B
Neolentinus kauffmanii	B
Nivatogastrium nubigenum, In entire range except OR Eastern Cascades and CA Cascades Physiographic Provinces	B
Octavianina cyanescens (*Octavianina* sp. nov. #Trappe 7502)	B
Octavianina macrospora	B
Octavianina papyracea	B
Otidea leporina	D
Otidea smithii	B
Phaeocollybia attenuata	D
Phaeocollybia californica	B
Phaeocollybia dissiliens	B

Phaeocollybia fallax	D
Phaeocollybia gregaria	B
Phaeocollybia kauffmanii	D
Phaeocollybia olivacea, In Oregon	F
Phaeocollybia olivacea In Washington and California	E
Phaeocollybia oregonensis (syn. *Phaeocollybia carmanahensis*)	B
Phaeocollybia piceae	B
Phaeocollybia pseudofestiva	B
Phaeocollybia scatesiae	B
Phaeocollybia sipei	B
Phaeocollybia spadicea	B
Phellodon atratus (Phellodon atratum)	B
Pholiota albivelata	B
Podostroma alutaceum	B
Polyozellus multiplex	B
Pseudaleuria quinaultiana	B
Ramaria abietina	B
Ramaria amyloidea	B
Ramaria araiospora	B
Ramaria aurantiisiccescens	B
Ramaria botryis var. *aurantiiramosa*	B
Ramaria celerivirescens	B
Ramaria claviramulata	B
Ramaria concolor f. marrii	B
Ramaria concolor f. tsugina	B
Ramaria conjunctipes var. *sparsiramosa (Ramaria fasciculata* var. *sparsiramosa)*	B
Ramaria coulterae	B
Ramaria cyaneigranosa	B
Ramaria gelatiniaurantia	B
Ramaria gracilis	B
Ramaria hilaris var. *olympiana*	B
Ramaria largentii	B
Ramaria lorithamnus	B
Ramaria maculatipes	B
Ramaria rainierensis	B
Ramaria rubella var. *blanda*	B
Ramaria rubribrunnescens	B
Ramaria rubrievanescens	B
Ramaria rubripermanens In Oregon	D
Ramaria rubripermanens In Washington and California	B
Ramaria spinulosa var. *diminutiva* (*Ramaria spinulosa*)	B
Ramaria stuntzii	B
Ramaria suecica	B
Ramaria thiersii	B
Ramaria verlotensis	B
Rhizopogon abietis	B
Rhizopogon atroviolaceus	B
Rhizopogon brunneiniger	B
Rhizopogon chamaleontinus (*Rhizopogon* sp. nov. #Trappe 9432)	B
Rhizopogon ellipsosporus (*Alpova* sp. nov. # Trappe 9730)	B
Rhizopogon evadens var. *subalpinus*	B
Rhizopogon exiguus	B
Rhizopogon flavofibrillosus	B

Rhizopogon inquinatus	B
Rhizopogon truncatus	D
Rhodocybe speciosa	B
Rickenella swartzii (Rickenella setipes)	B
Russula mustelina	B
Sarcodon fuscoindicus	B
Sedecula pulvinata	B
Sowerbyella rhenana (Aleuria rhenana)	B
Sparassis crispa	D
Spathularia flavida	B
Stagnicola perplexa	B
Thaxterogaster pavelekii (*Thaxterogaster* sp. nov. #Trappe 4867, 6242, 7427, 7962, 8520)	B
Tremiscus helvelloides	D
Tricholoma venenatum	B
Tricholomopsis fulvescens	B
Tuber asa (*Tuber* sp. nov. #Trappe 2302)	B
Tuber pacificum (*Tuber* sp. nov. #Trappe 12493)	B
Tylopilus porphyrosporus (Tylopilus pseudoscaber)	D
LICHENS	
Bryoria pseudocapillaris	A
Bryoria spiralifera	A
Bryoria subcana	B
Buellia oidalea	E
Calicium abietinum	B
Calicium adspersum	E
Cetrelia cetrarioides	E
Chaenotheca chrysocephala	B
Chaenotheca ferruginea	B
Chaenotheca subroscida	E
Chaenothecopsis pusilla	E
Collema nigrescens, In WA and OR, except in OR Klamath Physiographic Province	F
Dendriscocaulon intricatulum, In CA	E
Dendriscocaulon intricatulum, Rest of Oregon outside of Coos, Curry, Douglas, Josephine, & Jackson Counties; WA	A
Dermatocarpon luridum	E
Fuscopannaria saubinetii (= *Pannaria saubinetii*)	E
Heterodermia sitchensis	E
Hypogymnia duplicata	C
Hypogymnia vittata	E
Hypotrachyna revoluta	E
Leptogium burnetiae var. hirsutum	E
Leptogium cyanescens	A
Leptogium rivale	E
Leptogium teretiusculum	E
Lobaria linita, var. *tenuoir*, In WA WL, WA WC south of Snoqualmie Pass, WA EC; OR	A
Lobaria oregana, In California	A
Microcalicium arenarium	B
Nephroma bellum, In OR; Klamath, Willamette Valley, Eastern Cascades; WA; Western Cascades (outside GPNF), Eastern Cascades, Olympic Peninsula Physiographic Provinces	E
Nephroma isidiosum	E
Nephroma occultum	C
Niebla cephalota	A
Pannaria rubiginosa	E
Peltigera pacifica	E

Platismatia lacunosa, all except Oregon Coast Range	E
Pseudocyphellaria perpetua (*Pseudocyphellaria sp. 1*)	A
Pseudocyphellaria rainierensis	A
Stenocybe clavata	E
Teloschistes flavicans	A
Tholurna dissimilis, south of Columbia River	B
Usnea hesperina	E
Usnea longissima, In California and in Curry, Josephine, and Jackson Counties, Oregon	A
Usnea longissima, In Oregon, except in Curry, Josephine, and Jackson Counties and in Washington	F
BRYOPHYTES	
Brotherella roellii	E
Buxbaumia viridis, In California	E
Diplophyllum plicatum	B
Herbertus aduncus	E
Iwatsukiella leucotricha	B
Kurzia makinoana	B
Marsupella emarginata v. aquatica	B
Orthodontium gracile	B
Ptilidium californicum, In California	A
Racomitrium aquaticum	E
Rhizomnium nudum	B
Schistostega pennata	A
Tetraphis geniculata	A
Tritomaria exsectiformis	B
Tritomaria quinquedentata	B
VASCULAR PLANTS	
Arceuthobium tsugense mertensianae, In Washington only	F
Bensoniella oregana, In California only	A
Botrychium minganense, In Oregon and California	A
Botrychium montanum	A
Coptis asplenifolia	A
Coptis trifolia	A
Corydalis aquae-gelidae	A
Cypripedium fasciculatum, WA outside Eastern Cascades; OR; CA	C
Cypripedium montanum, Entire range except Washington Eastern Cascades Physiographic Province	C
*Eucephalus vialis (*syn. *Aster vialis)*	A
Galium kamtschaticum, Olympic Peninsula, WA Eastern Cascades, OR & WA Western Cascades Physiographic Provinces, south of Snoqualmie Pass	A
Platanthera orbiculata var. *orbiculata* (syn. *Habenaria orbiculata*)	C
ARTHROPODS	
Canopy herbivores (south range)	F
Coarse wood chewers (south range)	F
Litter and soil dwelling species (south range)	F
Understory and forest gap herbivores (south range)	F

1 Although Pre-Disturbance Surveys are deemed practical for these species, continuing pre-disturbance surveys is not necessary in order to meet management objectives.

2 For these species, until Management Recommendations are written, the following language will be considered part of the Management Recommendation: Known and newly discovered sites of these species will be protected from grazing by all practical steps to ensure that the local population of the species will not be impacted.