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IN REPLY REFER TO:

1950 (FS)/ 1736 (BLM) (OR-931)

January 5, 2007

Dear Reader:

Attached is a Supplement to the July 2006 Draft Supplement to the 2004 Final Supplemental Environmental Impact Statement (FSEIS) to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines. The Bureau of Land Management and Forest Service (the Agencies) prepared this Supplement to add an additional no-action alternative to the July 2006 Draft Supplement to address the potential implications of a November 2006 decision by the U.S. Court of Appeals for the Ninth Circuit in the case of *Klamath Siskiyou Wildlands Center v. Boody*, 468 F.3d 549 (9th Cir. 2006). The additional no-action alternative adds 58 species removed from Survey and Manage in all or part of their range during the Agencies' Annual Species Reviews in 2001, 2002, and 2003, and thus not previously addressed in the July 2006 Draft Supplement or 2004 FSEIS. The Supplement also addresses the effects of assumed category changes for 32 species and contains the most current information about these additional species.

You may wish to have a copy of the July 2006 Draft Supplement and/or the 2004 FSEIS so you can consider this Supplement in context. Both of these documents are available on line at <http://www.reo.gov/s-m2006> or may be requested in CD or printed version by writing to Carol Hughes at U.S. Forest Service, P.O. Box 3623, Portland, OR 97208-3623 or emailing your request to ORSMSEIS@blm.gov.

A 90-day comment period begins with publication of the Notice of Availability in the *Federal Register*. The Agencies expect the comment period will start January 5, 2007 and close April 5, 2007. Any changes in these dates will be published on the above website. Reviewers should provide their comments during this comment period.

The Agencies ask that those submitting comments on this Supplement make them as specific as possible. Reviewers have an obligation to "structure their participation in the National Environmental Policy Act process so that it is meaningful and alerts the agency to the reviewer's position and contentions." *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 552 (1978)." *Dept. of Transportation v. Public Citizen*, 541 U.S. 752, 764 (2004). Your ability to pursue concerns that could have been raised at the draft stage may be forfeited if not raised until after completion of the Final Supplement. Comments on this Supplement should be specific and should address the adequacy of the Supplement and the merits of the alternatives discussed (40 CFR 1503.3).

Comments received in response to this solicitation, including names and addresses, will be considered part of the public record on this Supplement and related documents, and will be available for public inspection. Comments, including names and addresses, may be published as part of the Final Supplement. If you wish to withhold your name or address from public review,

or from disclosure under the Freedom of Information Act (FOIA), you must state this prominently at the beginning of your written comments. Additionally, pursuant to 7 CFR 1.27(d), any person may request that submissions be withheld from the public record by showing how the FOIA permits such confidentiality. Persons requesting such confidentiality should be aware that under FOIA, confidentiality may be granted in only very limited circumstances, such as to protect trade secrets. The requester will be informed of the Agencies' decision regarding the request for confidentiality. Where the request is denied, the comments will be returned to the requester, and the requester will be notified that the comments may be resubmitted with or without name and address. Comments submitted anonymously will be accepted and considered. Anonymous comments do not create standing or a record of participation. All submissions from organizations and business, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety.

Comments on this Supplement and the July 2006 Draft Supplement will be addressed in the Final Supplement, scheduled for release during 2007. It is not necessary to resubmit or repeat comments submitted about the July 2006 Draft Supplement in order to have them considered. Some sections in this Supplement have already been changed to reflect comments submitted on the July 2006 Draft Supplement.

For further information on this Supplement, contact Carol Hughes, U.S. Forest Service-NR, P.O. Box 3623, Portland, OR 97208-3623; or via telephone at 503-808-2661.



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1 Attachment

1 – Supplement to the July 2006 Draft Supplement to 2004 FSEIS

**Supplement to the
July 2006 Draft Supplement to the
2004 Final Supplemental Environmental Impact Statement
To Remove or Modify the
Survey and Manage Mitigation Measure
Standards and Guidelines**

*Forest Service National Forests in Regions 5 and 6
and Bureau of Land Management Districts
in Washington, Oregon, and California
Within the Range of the Northern Spotted Owl*

January 2007

Lead Agencies: Forest Service - U.S. Department of Agriculture
Bureau of Land Management - U.S. Department of the Interior

Responsible Officials: Mike Johanns, Secretary of Agriculture
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This Supplement to the July 2006 Draft Supplement is available for public review for 90 days beginning with publication of the Notice of Availability in the *Federal Register*, expected to take place January 5, 2007. Actual publication date will be noted on the web site below. Assuming publication on January 5, the 90-day public comment period would end April 5, 2007.

MAIL COMMENTS TO: Survey and Manage SEIS Team P.O. Box 2965 Portland, OR 97208-2965 Or submit them email to: ORSMSEIS@blm.gov
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Printed copies of this document can be obtained by contacting Carol Hughes at U.S. Forest Service-NR, P.O. Box 3623, Portland, OR 97208-3623 or emailing ORSMSEIS@blm.gov. Copies of this document are also available on line at <http://www.reo.gov/s-m2006>.

Abstract

This Supplement to the July 2006 Draft Supplement to the 2004 Final Supplemental Environmental Impact Statement (FSEIS) to Remove or Modify the Survey and Manage Mitigation Measure Standards and Guidelines addresses the effects of an additional no-action alternative that responds to the potential implications of a November 6, 2006 decision by the United States Court of Appeals for the Ninth Circuit in the case of *Klamath Siskiyou Wildlands Center v. Boody*, 468 F.3d 549 (9th Cir. 2006). Alternative 4, the additional no-action alternative added by this Supplement, retains the Survey and Manage Standards and Guidelines but differs from the Alternative 1 no-action alternative by including all 337 species on Survey and Manage in 2001 (and their respective category assignments), before the Agencies conducted standard and guideline-specified Annual Species Reviews in 2001, 2002, and 2003. Because under Alternative 3, Survey and Manage retains the “rare” species categories, Alternative 3 is changed to include the additional species and changed category assignments included in Alternative 4.

The Purpose and Need, Proposed Action, and Alternatives 1 and 2 remain unchanged from the 2004 FSEIS. The Agencies still propose to remove the Survey and Manage Standards and Guidelines of the Northwest Forest Plan. That removal would now, if measured from the additional no-action alternative, potentially affect 337 species rather than the 295 considered by the July 2006 and 2004 documents. An effects discussion for the 42 additional species, and for another 16 in portions of their range not previously included, is now being added to the 2004/2006 FSEIS analysis by this Supplement. For these 58 species, 1 has insufficient information to determine an effect (outcome), 2 have insufficient habitat to support stable populations under all alternatives, and 1 species in part of its range and 1 species in all of its range have insufficient habitat under alternatives that remove Survey and Manage but sufficient habitat when Survey and Manage is retained. The Agencies had previously removed these 6 species from Survey and Manage through the Annual Species Review because they are not associated with late-successional forests, but these and other removals are being prudently reconsidered in light of the Ninth Circuit Court decision. The remaining 53 species have sufficient habitat to maintain stable populations under all alternatives.

The long-term effects of the additional no-action alternative, Alternative 4, on fuel treatments, costs of management, timber harvest, and other non-Survey and Manage species-specific resources remain essentially the same as previously presented for the original no-action alternative, Alternative 1, although there are effects differences between the two alternatives in the first two years.

Notice

Readers should note that the Secretary of Agriculture and the Secretary of the Interior are the responsible officials for this proposed action. Therefore, no administrative review (appeal) through the Forest Service will be available on the Record of Decision under 36 CFR 217, and no administrative review (protest) through the Bureau of Land Management will be available on the Final SEIS under 43 CFR 1610.5-2. Because there is no administrative review, the Record of Decision will not be signed until 30 days after the Final SEIS Notice of Availability appears in the Federal Register (see 40 CFR 1506.10(b)).

Acronyms and Abbreviations

AMA	Adaptive Management Area
As	Bureau Assessment
ASR	Annual Species Review
BBN	Bayesian belief network
BLM	Bureau of Land Management
CI	Confidence Interval
CVS	Continuous Vegetation Survey
EA	Environmental Assessment
EIS	Environmental Impact Statement
FEMAT	Forest Ecosystem Management Assessment Team
FIA	Forest Inventory and Analysis
FLPMA	Federal Land Policy and Management Act
FS	Forest Service
FSEIS	Final Supplemental Environmental Impact Statement
FWS	U.S. Fish and Wildlife Service
GeoBOB	Geographic Biotic Observations database
ha	hectare
IMG	Intermediate Management Group
ISMS	Interagency Species Management System database
LSR	Late Successional Reserve
MMBF	million board feet
MR	Management Recommendations
NEPA	National Environmental Policy Act
NFP	Northwest Forest Plan
NWFP	Northwest Forest Plan
LSOG	Late-Successional and Old-Growth forest
ONHP	Oregon Natural Heritage Program
ORNHIC	Oregon Natural Heritage Information Center
PNW	Pacific Northwest Research Station
R-5	Forest Service Region 5 (California)
R-6	Forest Service Region 6 (Oregon and Washington)
RDS	Random Double Sample
RIEC	Regional Interagency Executive Committee
RMS	Random Multi-Species
ROD	Record of Decision
S&Gs	Standards and Guidelines
SE	Standard Error
SEIS	Supplemental Environmental Impact Statement
SSSP	Special Status Species Program(s)
SS	Forest Service or BLM Sensitive Species
USDA	United States Department of Agriculture
USDI	United States Department of the Interior

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Summary

Introduction

In 2001, the Survey and Manage Standards and Guidelines covered 337¹ species and 4 arthropod functional groups. The Survey and Manage Standards and Guidelines adopted in 2001 include an Annual Species Review (ASR) process for adding, removing, or changing a species from one category to another, based on new information relative to the Survey and Manage Three Basic Criteria. The ASR process was completed in 2001, 2002, and 2003 according to the prescribed process and criteria, removing or changing the categories for 85 species in all or part of the range. The three ASRs resulted in the removal of 42 species from Survey and Manage in all of their range, 16 in part of their range, and changed category assignments of another 32 in all or part of their range (5 of which were species also removed in a part of their range and therefore also counted as part of the 16). Thus, for the 2004 Final Supplemental Environmental Impact Statement (FSEIS) and Record of Decision, 295² species and 4 arthropod groups remained on Survey and Manage in all or part of their range. The 295² species and 4 arthropod functional groups, and the categories to which they were assigned in 2004, were described in the 2004 FSEIS as Alternative 1, No-Action.

On November 6, 2006, the United States Court of Appeals for the Ninth Circuit ruled the BLM violated the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA) when it authorized the Cow Catcher and Cotton Snake timber sales, located in Oregon. The court found the 2001 Annual Species Review (ASR) category change and 2003 ASR removal of the red tree vole from the Mesic Biological Zone constituted a Resource Management Plan amendment, which should have had accompanying NEPA analysis. Although the court's decision was specific to the red tree vole, it is prudent and reasonable for the Agencies to consider the potential implications of that decision on other species affected by the ASR process by presenting an alternative based on Survey and Manage in 2001, before the ASRs were conducted.

The Agencies have decided, therefore, to prepare this Supplement to present the analysis of effects for an additional no-action alternative (Alternative 4), which includes all 337¹ species included in Survey and Manage, and their category assignments, prior to completion of the three ASRs. The additional 58 species included in this alternative that are new to the 2004/2006 analysis, in all or part of their range, are also considered in the context of the other action alternatives. Finally, the effects of Alternative 4 on other forest management activities are also addressed in this Supplement.

The Agencies have decided to modify Alternative 3 as well. In the 2004 FSEIS and July 2006 Draft Supplement, Alternative 3 retains Survey and Manage just for those species in the "rare" categories in No-Action Alternative 1. In part because there are now more species included in the new no-action alternative (Alternative 4) added by this Supplement than are included in No-Action Alternative 1, the Agencies have decided a more complete analysis of effects would be accomplished if Alternative 3 was modified from its 2004/2006 version to include the "rare" species categories from No-Action Alternative 4. This change results in a net increase of 38 in the number of species on Survey and Manage under this Alternative.

These changes do not reflect the Agencies' position on any further legal proceedings related to the Ninth Circuit Court ruling on the Cow Catcher and Cotton Snake Timber Sales or the Annual Species Review process. Because no legal decision has been rendered about other ASR decisions, or even about the red tree vole on National Forests, No-Action Alternative 1

¹ The 2000 FSEIS addressed "346" species, but that number included 4 arthropod groups, 3 species that were counted twice because they were in more than one category and two species since determined to be synonyms for other included species and were thus combined.

² The 2004 FSEIS addressed "296" species but that number included a species since determined to be a synonym for another included species and was thus combined.

from the 2004 FSEIS and July 2006 Draft Supplement is also retained. The difference in effects between Alternatives 1 and 4 disclose the effects of species removals and changes in management categories resulting from the 2001, 2002, and 2003 ASRs.

The additional information and analysis presented in this Supplement, along with changes made as a result of public review, will be incorporated into the Final SEIS expected to be released in mid-2007.

Purpose and Need

The *Purpose and Need* and the *Proposed Action* remain unchanged from the 2004 FSEIS. The Agencies still propose to remove the Survey and Manage Standards and Guidelines of the Northwest Forest Plan, and that removal would now potentially affect 337 species rather than the 295 addressed in the July 2006 and 2004 documents, depending upon which No-Action Alternative the proposed action is contrasted against.

The Alternatives

Alternatives 1 and 2 remain as they were described in the 2004 FSEIS and July 2006 Draft Supplement. Alternative 1, No-Action, retains the Survey and Manage Standards and Guidelines, applying them to the 295 species understood by the Agencies to be covered by the Survey and Manage Standards and Guidelines in 2004 and analyzed in the 2004 FSEIS and July 2006 Draft Supplement. Under this alternative, the 58 species removed from Survey and Manage in all or part of their range by the Agencies during the 2001, 2002, and 2003 Annual Species Reviews (ASRs) are considered “off” of Survey and Manage, and are assumed to be assigned to one or more of the Agencies’ respective Special Status Species Programs if they qualify.

Alternative 2 removes the Survey and Manage Standards and Guidelines from the Northwest Forest Plan. Under this alternative, all 337 species included in this Supplement and the 2004 FSEIS/July 2006 Draft Supplement are considered “off” of Survey and Manage and are assumed to be assigned to one or more of the Agencies’ respective Special Status Species Programs if they qualify.

Alternative 3, Survey and Manage retains the “rare” category species on Survey and Manage, removing those in the “uncommon” categories and assuming qualifying species will be assigned to the Agencies’ respective Special Status Species Programs. This alternative is changed from the 2004 FSEIS/July 2006 Draft Supplement so that Survey and Manage under this alternative retains the 299 “rare” category species from Alternative 4. Although this change removes 7 species from Survey and Manage that were retained under the 2004/2006 version, it adds 45 species in part because Alternative 4 includes species that were not included in the previous analyses.

Under Alternative 4, for reasons discussed earlier in this section, Survey and Manage includes all 337 species and the categories to which they were assigned in the 2001 Record of Decision. (USDA, USDI 2001a:41-51).

Environmental Effects

Environmental effects resulting from the addition of another No-Action Alternative, Alternative 4, with its additional species and changed categories, are of two kinds. First, the alternative has potential adverse effects on the Agencies’ costs of management and their ability to achieve resource management goals and timber outputs that were established under the Northwest Forest Plan (see Purposes, 2004 FSEIS at pp. 5-6.) These types of effects are summarized below under *Effects to Resources Other than Survey and Manage Species*, and described in detail in Chapter 3&4.

Second, each of the four alternatives presented in this analysis result in effects to the 337 Survey and Manage species themselves. These effects are described in detail as “outcomes” for each species in Chapter 3&4, and are summarized below under *Outcomes for Species* and presented in Table C at the end of this Chapter.

Effects to Resources Other than Survey and Manage Species

Because Alternatives 1 and 2 are unchanged by this Supplement, effects to non-Survey and Manage species-specific resources remain as described in the 2004 FSEIS and July 2006 Draft Supplement for these alternatives.

An analysis assumption for Alternatives 3 and 4 in this Supplement is that if these alternatives are selected, the Agencies would revisit the 2001, 2002, and 2003 Annual Species Reviews in light of the Ninth Circuit’s decision in the *KWSC v. Boody* decision, and if it were determined that these actions might require a plan amendment to conform to the implication of this decision for species other than the Mesic Zone red tree vole, an Annual Species Review (consistent with any Agency planning and NEPA regulations where required) would begin and most or all of the previous ASR decisions would be reinstated. Therefore the long-term effects of Alternatives 3 and 4 to timber harvest, fuels treatments, costs of management, and other non-Survey and Manage species-specific resources are expected to be the same as the effects already described in the 2004 FSEIS/July 2006 Draft Supplement for Alternatives 3 and 1 in those documents, respectively. That is, the long-term effects on these resources are essentially the same for both No-Action Alternatives, Alternatives 1 and 4. Similarly, the effects on these resource areas under the changed Alternative 3 are the same as effects attributed to the Alternative 3 described in the 2004 FSEIS/July 2006 Draft Supplement.

In the short term, for the one to two years potentially required to conduct any planning steps that may be identified by the above-referenced reconsideration, Alternative 4 and to a lesser degree Alternative 3, adversely affect timber harvests and other potentially habitat-disturbing management activities like fuels management. As described in more detail in Chapter 3&4, achievement of fiscal year 2007 and 2008 timber sale targets would be reduced 20 to 25 million board feet per year (about 4 percent of the 530-600 million board feet target) under Alternative 3 when compared to Alternative 3 described in the 2004 FSEIS/July 2006 Draft Supplement. Similarly, timber sale levels would be reduced 80 to 100 million board feet (about 16 percent) under No-Action Alternative 4 when compared with No-Action Alternative 1. Short term effects to fuels treatment and other management activities are less than these percentages because of shorter planning lead-time requirements and the greater availability of substitute treatment methods and locations. If the analysis assumption described above proves to be incorrect, effects to timber harvest, fuels treatments, and other management activities could occur for a longer period of time.

Outcomes for Species

For the 58 species “new” to Survey and Manage in Alternative 4 in all or part of their range and thus being added to the 2004/2006 Survey and Manage analysis by this Supplement, 1 species has insufficient information to determine an outcome, 3 have insufficient habitat to support stable populations under all alternatives, and 1 species in part of its range and 1 species in all of its range, have insufficient habitat under alternatives that remove Survey and Manage but sufficient habitat when Survey and Manage is retained. The Agencies had previously removed these 6 species from Survey and Manage because they are not closely associated with late-successional forests. The remaining 52 species have sufficient habitat to maintain stable populations across the Northwest Forest Plan area under all alternatives (Table S).

There are 32 species (including 5 of the 58 “part of their range” species above) that, in all or part of their range, are in different categories under No-Action Alternative 1 than under No-Action Alternative 4. For these 32 species, both Alternatives 1 and 4 provide habitat (including known sites) sufficient to support stable populations in the Northwest Forest Plan area.

Preferred Alternative

Based on consideration of the environmental consequences described in the 2004 FSEIS, the July 2006 Draft Supplement, and this Supplement, Alternative 2 is found to best meet the purpose and need, and is the preferred alternative.

Table S. Summary of environmental consequences for the 58 species new to this analysis in all or part of their range. (Includes outcomes for 16 species previously included in the 2004 FSEIS/July 2006 Draft Supplement for another part of their range.)

		Alternative 1 Post-ASR No-Action	Alternative 2 Removed S&M	Alternative 3 Modified S&M	Alternative 4 Pre-ASR No-Action
Species	Insufficient habitat not due to federal actions ¹	3	3	3	3
	Insufficient habitat due to actions under the alternative	1(1 ²)	1(1 ²)	1	0
	Sufficient Habitat	53	53	53	54
	Insufficient Information to Determine Outcome	1	1	1	1

¹ Factors resulting in insufficient habitat are things such as limited potential habitat and few populations on federal lands, potential for stochastic events, low number of individuals, limited distribution, or narrow ecological amplitude.

² *Bryoria tortuosa* has sufficient habitat range-wide, but insufficient habitat in a portion of the range. It is also included in the “sufficient habitat” count.

Introduction

Objectives of this Supplement

The Ninth Circuit Court Decision on the Annual Species Reviews

On November 6, 2006, the United States Court of Appeals for the Ninth Circuit ruled the BLM violated the Federal Land Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA) when it authorized the Cow Catcher and Cotton Snake timber sales, located in Oregon. The court found the 2001 and 2003 Survey and Manage Annual Species Review (ASR) category change and subsequent removal of the red tree vole from Survey and Manage requirements in the Mesic Biological Zone constituted a Resource Management Plan amendment which should have had accompanying NEPA analysis. Although the court's decision was specific to the red tree vole, it is prudent and reasonable for the Agencies to consider the implications of that decision on other species affected by the ASR process. This Supplement, therefore, presents another no-action alternative (Alternative 4) which includes all 337 species included in Survey and Manage, and their category assignments, prior to completion of the three ASRs. Because no legal decision has been rendered about other ASR decisions, or even about the red tree vole on National Forests, the No-Action Alternative 1 from the 2004 FSEIS and July 2006 Draft Supplement is also retained. The difference in effects between Alternatives 1 and 4 disclose the effects of species removals and changes in management categories from the 2001, 2002, and 2003 ASRs.

Compared to No-Action Alternative 1, Alternative 4 adds 42 species in all of their range, adds 16 species in part of their range, and changes the categories for 32 species in all or part of their range. Five of the species with changed categories in part of their range were removed in the other part of their range and are therefore included in the 16 above, and the total number of species addressed by this Supplement is thus 85.

This Supplement describes the additional no-action alternative, Alternative 4, and corresponding changes to one of the previously existing alternatives, Alternative 3. For these alternatives, the Supplement describes effects on fuel treatments, costs of management, timber harvest, and other non-Survey and Manage species-specific resources. The Supplement also provides effects analysis for the 85 species which were added or changed category under the additional no-action alternative, describing outcomes to these species under all four of the alternatives.

Because this is a Supplement to the July 2006 Draft Supplement, and that document itself is formatted as an "errata" to the 2004 FSEIS, reviewers may need some familiarity with the alternatives, effects, and other information presented in those two documents to review this material effectively. These two documents are available as described in the Dear Reader letter.

Most of the analysis Supplemented by the current document appears in the 2004 FSEIS. The July 2006 Draft Supplement was prepared as an errata to the 2004 FSEIS to address three analysis deficiencies identified by the U.S. District Court of the Western District of Washington in Northwest Ecosystem Alliance, et al. v. Rey (August 1, 2005).

Subsequent Documents

The 90-day review period for this Supplement will be followed by preparation and release of a Final SEIS in mid-2007, which will address comments received on this Supplement and the July 2006 Draft Supplement. No sooner than 30 days following issuance of the Final SEIS, each agency is expected to issue a Record of Decision.

Chapter 1 – Purpose and Need

Introduction

The Need, Purposes, Proposed Action, and Preferred Alternative remain as described in the 2004 FSEIS.

Chapter 2 – The Alternatives

Introduction

This Supplement adds an additional no-action alternative, Alternative 4, to address species potentially added to Survey and Manage as a result of the November 6, 2006 decision by the United States Court of Appeals for the Ninth Circuit in the case of Klamath Siskiyou Wildlands Center v. Boody, 468 F.3d 549 (9th Cir. 2006). Also Alternative 3 is changed to incorporate the additional species and category assignments brought into this analysis under Alternative 4. All four alternatives are described in this chapter, followed by a summary and comparison of the environmental effects.

Background for No-Action Alternative 4

Three Basic Criteria for Survey and Manage

1. The species must occur within the Northwest Forest Plan area, or occur close to the Northwest Forest Plan area and have potentially suitable habitat within the Northwest Forest Plan area.
2. The species must be closely associated with late-successional or old-growth forest.
3. The reserve system and other standards and guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

In 2001 there were 337¹ species and 4 arthropod groups included in the Survey and Manage mitigation measure. The 2001 Survey and Manage Standards and Guidelines include an Annual Species Review (ASR) process for adding, removing, or changing a species from one category to another, based on new information relative to the Survey and Manage three basic criteria. The ASR process is a rigorous, science-based, comparison of available species information with criteria specified in the Survey and Manage Standards and Guidelines and used to place the species in 2001 (see Appendix 9). The process was completed in 2001, 2002, and 2003 according to the prescribed process and criteria. The three ASRs removed 42 species in all of their range and 16 species in part of their range because they did not meet one of the three

basic criteria for inclusion in Survey and Manage, and changed the categories of another 32 in all or part of their range, including 5 in part of their range that are also counted in the 16 above. Thus, for the 2004 Final Supplemental Environmental Impact Statement (FSEIS) and Record of Decision, there were 295² species and 4 arthropod functional groups remaining on Survey and Manage. Those species, and the then-current categories to which they were assigned, were described in the 2004 FSEIS and July 2006 Draft supplement as Alternative 1, No-Action.

On November 6, 2006, the United States Court of Appeals for the Ninth Circuit found the 2001 and 2003 Survey and Manage ASR category change and subsequent removal of the red tree vole from the Mesic Biological Zone constituted a Resource Management Plan amendment which should have had accompanying National Environmental Policy Act (NEPA) analysis.

¹ The 2000 FSEIS addressed “346” species, but that number included 4 arthropod groups, 3 species that were counted twice because they were in more than one category and two species that have since been determined to be synonyms for other included species and thus has been combined.

² The 2004 FSEIS addressed “296” species, but that number included a species that has since been determined to be a synonym for another included species and thus has been combined.

Although the court’s decision was specific to the red tree vole, it is prudent and reasonable for the Agencies to consider the potential implications of that decision on other species affected by the ASR process. This Supplement, therefore, presents analysis of another no-action alternative (Alternative 4) which includes all 337 species included in Survey and Manage, and their category assignments as they appeared in the 2001 Record of Decision prior to completion of the three ASRs.

These changes do not reflect the Agencies’ position on any further legal proceedings related to the Ninth Circuit Court ruling on the Cow Catcher and Cotton Snake Timber Sales or the Annual Species Review process. Because no legal decision has been rendered about other ASR decisions, or even about the red tree vole on National Forests, No-Action Alternative 1 from the 2004 FSEIS and July 2006 Draft Supplement is also retained.

The Alternatives

Alternative 1 – NWFP with Survey and Manage (post-ASRs)

Alternative 1, the original No-Action Alternative, remains as described in the 2004 FSEIS. This alternative retains the Survey and Manage Standards and Guidelines, applying them to the 295 species and 4 arthropod functional groups understood by the Agencies to be covered by the Survey and Manage Standards and Guidelines in 2004 and thus analyzed in the 2004 FSEIS and July 2006 Draft Supplement. Under this alternative, the 58 species removed from Survey and Manage in all or part of their range by the Agencies during the 2001, 2002, and 2003 Annual Species Reviews are considered “off” of Survey and Manage and are assumed to be assigned to one or more of the Agencies’ respective Special Status Species Programs if they qualify (see Table C near the end of this chapter).

Alternative 2 – NWFP without Survey and Manage

Alternative 2, the Proposed Action, remains as described in the 2004 FSEIS. This alternative would remove the Survey and Manage Standards and Guidelines from the Northwest Forest Plan. Under this alternative, all 337 species included in this Supplement and the 2004 FSEIS/July 2006 Draft Supplement are considered “off” of Survey and Manage and are assumed to be assigned to one or more of the Agencies’ respective Special Status Species Programs if they qualify (see Table C).

Alternative 3 – NWFP with Modified Survey and Manage

Alternative 3, Survey and Manage retains the “rare” category species on Survey and Manage, removing those in the “uncommon” categories and assuming qualifying species will be assigned to the Agencies’ respective Special Status Species Programs (see Table C). This alternative is changed from the 2004 FSEIS/July 2006 Draft Supplement so Survey and Manage under this alternative retains the 299 “rare” category species from Alternative 4. Although this change removes 7 species from Survey and Manage that were retained under the 2004/2006 version, it adds 45 species in part because Alternative 4 includes species that were not included in the previous analyses.

Alternative 3 would also modify the existing Survey and Manage Standards and Guidelines by: (1) eliminating the requirement to conduct pre-disturbance surveys in non-late-successional and non-old-growth forest stands; and (2) changing the review process for excepting known sites from management. A more detailed description of this alternative is included in the 2004 FSEIS and July 2006 Draft Supplement, including complete standards and guidelines presented in the 2004 FSEIS, Appendix 4.

Alternative 1, 2, and 3 Special Status Species Program Assumption

Existing and planned Special Status Species Program species assignments (all were made in 2004 when the Agencies thought they had removed Survey and Manage) are shown on Table C near the end of this chapter, and are included as an analysis assumption for all species “off” Survey and Manage under Alternatives 1, 2, and/or 3. Agencies’ decision-makers, however, have latitude regarding additions or removals of individual species assignments to their Special Status Species Programs. For this reason, under alternatives removing species from Survey and Manage, effects to these species as if they are not added to, or are removed from, Agencies’ Special Status Species Programs at this time, are also displayed on Table C and discussed in the individual species discussions in Chapter 3&4. See the July 2006 Draft Supplement at pp. 32-33 for further explanation.

Alternative 4 – NWFP with Survey and Manage (pre-ASRs)

Alternative 4, No-Action, would continue implementing all current elements of the Northwest Forest Plan including the Survey and Manage mitigation measure (modified slightly to assume future ASRs may require additional analysis), the underlying land and resource management plans, and relevant agency programs and policies. It responds to the November 6, 2006 Ninth Circuit Court decision on two BLM timber sales by including those species previously thought removed by Annual Species Reviews. It therefore includes all 337 species and categories (plus 4 arthropod functional groups) listed in the 2001 Survey and Manage Record of Decision. (USDA, USDI 2001a:41-51).

This alternative is the same as Alternative 1 except:

- Number of Species and Taxa:** The Annual Species Review changes of 2001, 2002, and 2003 are assumed not to have occurred. Thus an additional 58 species are included in all or part of their range, and another 32 are in different categories in all or part of their range (variously increasing or decreasing protection levels). Table A shows the number of species by category. Table C shows the category assignments under each alternative for the 85 species changed by the ASRs and thus included in this Supplement.

Table A. Survey and Manage Categories and Management Requirements, Alternative 4.

Relative Rarity	Pre-Disturbance Surveys Practical	Pre-Disturbance Surveys Not Practical	Status Undetermined
Rare	Category A – 57 species <ul style="list-style-type: none"> Manage All Known Sites Pre-Disturbance Surveys Strategic Surveys 	Category B – 220 species <ul style="list-style-type: none"> Manage All Known Sites N/A¹ Strategic Surveys 	Category E – 22 species <ul style="list-style-type: none"> Manage All Known Sites N/A Strategic Surveys
Uncommon	Category C – 10 species <ul style="list-style-type: none"> Manage High-Priority Sites Pre-Disturbance Surveys Strategic Surveys 	Category D – 14 species ² <ul style="list-style-type: none"> Manage High-Priority Sites N/A Strategic Surveys 	Category F – 21 species <ul style="list-style-type: none"> N/A N/A Strategic Surveys

Species do not total 337 because the 4 arthropod functional groups are included in Category F, and for 3 species, different areas of their geographic ranges are assigned to different categories.

¹ Equivalent-effort surveys are required for 2006 and beyond (2011 for fungi) unless strategic surveys are completed.

² Includes three species with pre-disturbance surveys practical but not necessary.

- Project Analysis:** “Equivalent-effort” surveys were prescribed in the 2001 Record of Decision as a mitigation measure for certain mollusk species “for as long as they remain in Category B or E.” Thus this mitigation measure applies to these four mollusks under Alternative 4. The affected mollusks are *Ancotrema voyanum*, *Helminthoglypta hertleini*, *Monadenia infumata ochromphalus*, and *Pristoloma arcticum crateris*.
- Site Management:** Manage sites known as of September 30, 1999 was prescribed in the 2001 Record of Decision as a mitigation measure for two mollusk species, *Megomphix hemphilli* in California and south of Lincoln, Benton, and Linn Counties in Oregon, and

Monadenia churchi, “for as long as these species remain in Category F.” Thus, this mitigation measure applies to these two mollusks under Alternative 4.

- **Adding, Removing, and Changing Species Between Categories:** The reference in the Survey and Manage Standards and Guidelines to adding species or removing species, from Survey and Manage and making changes to species categories “without further NEPA documentation” now assumes such changes will be accompanied by appropriate NEPA process(es) when such changes would result in a plan amendment.

Comparison of Alternatives

The effects summarized and compared in this section derive from the detailed analysis presented in Chapter 3&4.

Effects to Resources Other than Survey and Manage Species

Consistent with 2004 FSEIS approach of predicting likely species removals so as to avoid overstating the adverse effects of the various alternatives (2004 FSEIS p 224), an analysis assumption for the changed Alternatives 3 and new Alternative 4 in this Supplement is that if these alternatives are selected, an Annual Species Review (consistent with any Agency planning and NEPA regulations where required) would begin and most or all of the previous ASR decisions would be reinstated. The result of this assumption is that the long-term effects of Alternatives 3 and 4 to timber harvest, prescribed fire treatments, costs of management, and other non-Survey and Manage species-specific resources are expected to be the same as the effects already described in the 2004 FSEIS/July 2006 Draft Supplement for Alternatives 3 and 1 in those documents, respectively. That is, the long-term effects on these resources are essentially the same for both No-Action Alternatives, Alternatives 1 and 4. Similarly, the effects on these resources under the changed Alternative 3 are the same as effects attributed to the Alternative 3 described in the 2004 FSEIS/July 2006 Draft Supplement.

In the short term, assuming one to two years are needed to accommodate planning processes referenced above, Alternatives 3 and 4 would adversely affect timber harvests approximately 4 and 16 percent respectively, and adversely affect other potentially habitat-disturbing management activities like fuels management slightly less (on a percentage basis). If the analysis assumption described above proves to be incorrect, effects to timber harvest, fuels treatments, and other management activities could occur for a longer period of time.

Outcomes for Species

Outcomes for all 85 species addressed in this Supplement are displayed on Table C, along with known site numbers and assumed Special Status Species Program assignments. “Parts of ranges” are discussed separately if a species has been previously removed in part of its range or if category assignments differ in different parts of its range. The 58 species previously removed in all or part of their range are recognizable in Table C as those whose category assignment is “off” under Alternative 1. Possible species outcomes are described in the 2004 FSEIS at pages 120-121. Abbreviated they are: 1-Sufficient Habitat; 2-Sufficient Habitat but Insufficient Habitat in a Portion of their Range; 3-Insufficient Habitat; and, 4-Insufficient Information to Determine an Outcome.

Since Special Status Species Program assignments are the purview of Agency officials outside of this NEPA analysis, outcomes are also displayed on Table C “without SSSP”, to show species outcomes (effects) if the assumed Special Status Species Program assignments are not made, or are removed.

For the 58 species returned to Survey and Manage in Alternative 4 in all or part of their range and thus being added to the 2004/2006 Survey and Manage analysis by this Supplement, 1 species has insufficient information to determine an outcome, 3 have insufficient habitat to

support stable populations under all alternatives, and 1 species in part of its range and 1 species in all of its range, have insufficient habitat under alternatives that remove Survey and Manage but sufficient habitat when Survey and Manage is retained. The Agencies had previously removed these 6 species from Survey and Manage because they are not closely associated with late-successional forests. Mitigation in the form of pre-disturbance survey and manage known sites could be applied. The remaining 52 species have sufficient habitat to maintain stable populations across the Northwest Forest Plan area under all alternatives (see Table B).

Table B. Summary of environmental consequences for the 58 species new to this analysis in all or part of their range. (Includes outcomes for 16 species previously included in the 2004 FSEIS/July 2006 Draft Supplement for another part of their range.)

		Alternative 1 Post-ASR No-Action	Alternative 2 Removed S&M	Alternative 3 Modified S&M	Alternative 4 Pre-ASR No-Action
Species	Insufficient habitat not due to federal actions ¹	3	3	3	3
	Insufficient habitat due to actions under the alternative	1(1 ²)	1(1 ²)	1	0
	Sufficient Habitat	53	53	53	54
	Insufficient Information to Determine Outcome	1	1	1	1

¹ Factors resulting in insufficient habitat are things such as limited potential habitat and few populations on federal lands, potential for stochastic events, low number of individuals, limited distribution, or narrow ecological amplitude.

² *Bryoria tortuosa* has sufficient habitat range-wide, but insufficient habitat in a portion of the range. It is also included in the “sufficient habitat” count.

There are 32 species (including 5 of the 58 “part of their range” species above) that, in all or part of their range, are in different categories under No-Action Alternative 1 than under No-Action Alternative 4. For these 32 species, both Alternatives 1 and 4 provide habitat (including known sites) sufficient to support stable populations in the Northwest Forest Plan area. (Outcomes for these 32 species under Alternative 2 are summarized in the July 2006 Draft Supplement. They remain unchanged and are not included in Table B.)

The other 252 Survey and Manage species are not addressed here because the previous analysis of these species in the July 2006 Draft Supplement does not change; effects for those species under No-Action Alternative 4 are exactly the same as effects already described for No-Action Alternative 1.

Table C: Predicted outcomes for 85 species added to, or in different categories than, the analysis presented in the 2004 FSEIS/July 2006 Draft Supplement.

TAXA GROUP Species	Category Assignment for each Alternative (see Table A)				Outcomes ¹				Special Status Species Programs ^{2, 8} (SSSP)				Outcomes ¹ without SSSP ⁵			Known Sites during the last ASR or 2004 SEIS			Additional Known Sites since the last ASR or 2004 SEIS ⁷			
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 1	Alt. 2	Alt. 3	Alt. 4	BLM OR/WA	BLM CA	FS R-6 ⁹	FS R-5 ⁹	Alt. 1	Alt. 2	Alt. 3	Federal Land Only	Total	ASR Year	Federal Land Only	Total	RMS sites ⁶	
																						Alt. 1
FUNGI																						
<i>Albatrellus fletii</i> , Oregon	off		B		1	1	1	1	-	NA	-	-	-	-	-	-	57	67	2001	16	16	1
<i>Bondarzewia mesenterica</i> (syn. <i>B. montana</i>), Oregon	off		B		1	1	1	1	-	-	-	-	-	-	-	-	102	122	2001	44	46	0
<i>Cantharellus subalbidus</i> , Oregon		off		D	1	1	1	1	-	-	-	-	-	-	-	-	164	199	2001	50	51	22
<i>Chromosera cyanophylla</i> (syn. <i>Mycena lilacifolia</i>)		off	B		1	1	1	1	-	-	-	-	-	-	-	-	189	222	2001	41	41	7
<i>Clavariadelphus truncatus</i> (syn. <i>C. borealis</i>)	D	off	B		1	1	1	1	-	-	-	-	-	-	-	-	106	118		12	12	2
<i>Collybia bakerensis</i>	F	off	B		1	1	1	1	-	-	-	-	-	-	-	-	124	129		-	-	2
<i>Cordyceps capitata</i>		off	B		1	1	1	1	-	-	ss	-	-	-	-	-	26	40	2001	5	5	3
<i>Craterellus tubaeformis</i> (syn. <i>Cantharellus tubaeformis</i>), Oregon		off		D	1	1	1	1	-	-	-	-	-	-	-	-	156	156	2001	61	61	36
<i>Craterellus tubaeformis</i> (syn. <i>Cantharellus tubaeformis</i>), Washington and California		off		D	1	1	1	1	-	-	-	-	-	-	-	-	103	103	2003	5	5	42
<i>Galerina atkinsoniana</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	83	83	2003	0	0	57
<i>Galerina vittaeformis</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	37	44	2001	24	24	99
<i>Gomphus clavatus</i>	F	off	B		1	1	1	1	-	-	-	-	-	-	-	-	71	96		14	14	11
<i>Gomphus kauffmanii</i>	E	off	B		1	3	1	1	-	-	ss	-	-	-	-	-	43	54		16	16	2
<i>Gymnopilus punctifolius</i> , Oregon and Washington		off	B		1	1	1	1	-	NA	-	-	-	-	-	-	63	63	2001	18	18	4
<i>Gyromitra esculenta</i>		off		F	1	1	1	1	-	-	-	-	-	-	-	-	225	323	2001	56	57	21
<i>Gyromitra infula</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	71	82	2001	52	53	8
<i>Gyromitra melaleucoides</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	68	85	2001	40	41	7
<i>Gyromitra montana</i> (syn. <i>G. gigas</i>)		off		F	1	1	1	1	-	-	-	-	-	-	-	-	1108	1311	2001	23	23	1
<i>Helvella maculata</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	64	91	2001	24	24	1
<i>Hydnum umbilicatum</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	103	137	2001	50	50	32
<i>Mycena monticola</i>		off	B		1	1	1	1	-	-	ss	-	-	-	-	-	102	134	2001	53	53	11
<i>Mycena overholtsii</i>	D	off	B		1	1	1	1	-	-	-	-	-	-	-	-	130	136		6	6	2
<i>Neourula pouchetii</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	48	67	2001	8	8	16
<i>Nivatogastrium nubigenum</i> , OR Eastern Cascades and CA Cascades Physiographic provinces		off	B		1	1	1	1	-	-	-	-	-	-	-	-	171	193	2001	19	20	1
<i>Otidea leporina</i>	D	off	B		1	1	1	1	-	-	-	-	-	-	-	-	101	110		21	22	0
<i>Otidea onotica</i>		off		F	1	1	1	1	-	-	-	-	-	-	-	-	643	749	2001	480	480	9
<i>Phaeocollybia olivacea</i> , Washington and California	E	off	B		1	1	1	1	ss	ss	ss-o	ss	-	-	-	-	6	18		6	6	0
<i>Phaeocollybia olivacea</i> , Oregon	F	off	B		1	1	1	1	ss	ss	ss-o	ss	-	-	-	-	0	0		22	23	0
<i>Pithya vulgaris</i>		off		D	1	1	1	1	-	-	-	-	-	-	-	-	193	220	2001	20	20	5
<i>Plectania melastoma</i>		off		F	1	1	1	1	-	-	-	-	-	-	-	-	90	129	2001	39	39	60
<i>Plectania milleri</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	228	260	2001	80	80	1
<i>Ramaria rubripurmanens</i> , Oregon	D	off	B		1	1	1	1	-	-	NA	-	-	-	-	-	113	124		20	20	9
<i>Sarcodon inbricatus</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	-	100	127	2001	27	27	1
<i>Sarcosoma latakense</i> (syn. <i>Plectania latakensis</i>)		off	B		1	1	1	1	-	-	-	-	-	-	-	-	49	57	2001	11	11	1

TAXA GROUP Species	Category Assignment for each Alternative (see Table A)				Outcomes ¹				Special Status Species Programs ^{2,8} (SSSP)				Outcomes ¹ without SSSP ⁵			Known Sites during the last ASR or 2004 SEIS		Additional Known Sites since the last ASR or 2004 SEIS ⁷		RMS sites ⁶	
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 1	Alt. 2	Alt. 3	Alt. 4	BLM OR/ WA	BLM CA	FS R-6 ⁹	FS R-5 ⁹	Alt. 1	Alt. 2	Alt. 3	Federal Land Only	Total	ASR Year	Federal Land Only		Total
FUNGI																					
<i>Sarcosoma mexicanum</i>	off			F	1	1	1	1	-	-	-	-	-	-	-	676	817	2001	15	15	8
<i>Sarcosphaera eximia</i> (syn. <i>S. coronaria</i>)	off		B		1	1	1	1	-	-	-	-	-	-	-	533	674	2001	73	74	0
<i>Tremiscus helvelloides</i>	D	off	B		1	3	1	1	-	-	-	-	-	-	-	81	107		5	5	3
<i>Turbinellus floccosus</i> (syn. <i>Gomphus floccosus</i> , <i>G. bonarii</i>), California		off		F	1	1	1	1	-	-	-	-	-	-	-	286	327	2001	12	12	3
LICHENS																					
<i>Bryoria pseudocapillaris</i>	A	off	B		3	3	3	3	ss	ss	ss		-	3	-	13	24		32	52	0
<i>Bryoria spirifer</i>	A	off	B		3	3	3	3	ss	ss	ss-o		-	3	-	20	49		16	25	2
<i>Bryoria tortuosa</i> , WA Eastern Cascades, OR Eastern Cascades, OR Klamath, CA Klamath, and CA Cascades Physiographic Provinces		off		D	1	1	1	1	-	ss	-	-	1	1	1	650	650	2002	113	114	2
<i>Bryoria tortuosa</i> , WA Olympic Peninsula, WA Western Lowlands, WA Western Cascades, OR Western Cascades, OR Coast Range, OR Willamette Valley and CA Coast Range Physiographic Provinces		off	A		3	3	1	1	-	ss	-	-	3	3	-	3	18	2002			
<i>Calicium glaucellum</i>		off		F	1	1	1	1	-	-	-	-	-	-	-	64	64	2002	29	29	71
<i>Calicium viride</i>		off		F	1	1	1	1	-	ss	-	-	1	1	1	119	119	2002	57	57	45
<i>Chaenotheca furfuracea</i>		off		F	1	1	1	1	-	-	-	-	-	-	-	153	153	2003	181	181	28
<i>Cladonia norvegica</i>		off	B		1	1	1	1	-	-	-	-	-	-	-	70	70	2003	-	-	28
<i>Dendriticocaulon intricatum</i> , Oregon in Coos, Douglas, Curry, Josephine, and Jackson Counties		off	B		1	1	1	1	-	NA	NA	-	-	-	-	526	526	2002	117	117	0
<i>Dendriticocaulon intricatum</i> , all of Washington and Oregon except Coos, Douglas, Curry, Josephine, and Jackson Counties	A	off	B		1	2	1	1	-	ss	ss-w	-	-	3	-	-	23		6	6	1
<i>Dendriticocaulon intricatum</i> , California	E	off	B		1	1	1	1	-	ss	ss-w	-	-	1	-	-			101	105	2
<i>Dermatocarpon meiphyllizum</i> (misidentified as <i>D. luridum</i> in NWFP 1994, 2000 and 2004 FSEIS)	E	off	B		1	1	1	1	-	-	ss	-	-	3	-	12	16		35	35	0
<i>Fuscopannaria saubinetii</i> (taxonomic revision from <i>Pannaria saubinetii</i>)	E	off	F		3	3	3	3	-	-	-	-	-	-	-	180	190		4	4	0
<i>Hypogymnia duplicata</i> (syn. <i>H. elongata</i>)	C	off	A		1	1	1	1	-	-	ss-o	-	-	1	-	200	211		31	42	8
<i>Hypogymnia oceanica</i>		off		F	1	1	1	1	-	-	-	-	-	-	-	441	456	2001	7	7	17
<i>Leptogium burnetiae</i> var. <i>hirsutum</i> (syn. <i>L. hirsutum</i>)	E	off	A		4	4	4	4	-	-	ss	-	-	4	-	1	4		-	-	0
<i>Leptogium rivale</i>	E	off	B		1	1	1	1	-	-	-	-	-	-	-	67	71		87	87	0
<i>Lobaria linita</i> , WA Western Cascades physiographic province north of Snoqualmie Pass and the Olympic Peninsula		off	A		1	1	1	1	as	-	ss-o	-	1	1	-	119	119	2002	28	28	2

TAXA GROUP Species	Category Assignment for each Alternative (see Table A)				Outcomes ¹				Special Status Species Programs ^{2, 8} (SSSP)				Outcomes ¹ without SSSP ⁵			Known Sites during the last ASR or 2004 SEIS			Additional Known Sites since the last ASR or 2004 SEIS ⁷			
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 1	Alt. 2	Alt. 3	Alt. 4	BLM OR/ WA	BLM CA	FS R-6 ⁹	FS R-5 ⁹	Alt. 1	Alt. 2	Alt. 3	Federal Land Only	Total	ASR Year	Federal Land Only	Total	RMS sites ⁶	
																						Alt. 1
LICHENS																						
<i>Nephroma bellum</i> , In OR: Western Cascades and Coast Range. In WA: Western Cascades in the Gifford Pinchot National Forest		off		F	1	1	1	1	-	-	ss-w	-	1	1	1	151	173	2001	7	11	23	
<i>Nephroma bellum</i> , In OR: Klamath, Willamette Valley, Eastern Cascades; WA: Western Cascades (outside the Gifford Pinchot National Forest), Eastern Cascades, Olympic Peninsula physiographic provinces	E	off		F	1	1	1	-	ss	ss-w	-	-	-	2 ⁴	20	13	6					
<i>Nephroma occulatum</i>	C	off	B	B	1	3	1	1	-	ss	-	-	-	3	168	49	4					
<i>Platismatia lacunosa</i> , Oregon Coast Range physiographic province		off		C	1	1	1	1	-	NA	-	-	-	-	14	59	2002	39	41	18		
<i>Platismatia lacunosa</i> , Except in Oregon Coast Range physiographic province	E	off		C	1	2	2	1	-	ss-w	-	-	-	3	3	21	3					
<i>Pseudocyphellaria perpetua</i> (misapplied name <i>P. mougeotiana</i> in FEMAT, NWFP 1994, and 2000 FSEIS. Also called <i>Pseudocyphellaria</i> sp. 1 in Management Recommendations (Leshar et al. 2000))	A	off	B		3	3	3	3	-	-	-	-	-	-	5	5	0					
<i>Pyrrhospora querneae</i> (syn. <i>Lecidea querneae</i> , <i>Problastenia querneae</i>)		off		E	3	3	3	3	-	ss	-	-	3	3	≤60	≤60	2002	2	2	0		
<i>Ramalina pollinaria</i>		off		E	3	3	3	3	as	ss	-	-	3	3	<25	<25	2002	8	33	1		
<i>Ramalina thrausta</i>		off	A		1	1	1	1	-	-	-	-	-	-	327	327	2003	391	395	15		
<i>Usnea hesperia</i>	E	off	B		3	3	3	3	-	-	-	-	-	-	14	17		14	31	0		
BRYOPHYTES																						
<i>Buxbaumia viridis</i> , Oregon and Washington		off		D	1	1	1	1	-	-	-	-	-	-	536	637	2001	202	202	19		
<i>Buxbaumia viridis</i> , California	E	off		D	1	1	1	1	-	ss	-	ss	-	3	4	5	1	1	1	0		
<i>Diplophyllum albicans</i>		off		D	1	1	1	1	-	-	-	-	-	-	117	117	2002	18	19	25		
<i>Encalyptia brevicollis</i> var. <i>crumiana</i>		off	B		4	4	4	4	-	ss-o	-	-	4	4	2	2	2002	3	3	0		
<i>Herbertus aduncus</i>	E	off	B		4	4	4	4	as	-	-	-	-	-	8	9		1	1	0		
<i>Racomitrium aquaticum</i>	E	off	B		1	1	1	1	-	-	-	-	-	-	24	28		8	8	6		
<i>Rhizomnium nudum</i> , Washington		off	B		1	1	1	1	as	-	ss-o	-	1	1	160	166	2002	67	67	21		
VERTEBRATES																						
Great Gray Owl <i>Strix nebulosa</i>	A	off		C	1	3	3	1	-	-	ss-w	ss	-	3	103	114		5	5	-		
Oregon Red Tree Vole <i>Arborimus longicaudus</i> , Mesic		off		C	1	1	1	1	-	-	-	-	-	-	404	405	2003	81	84	62		
Del Norte salamander <i>Plethodon elongatus</i>		off		D	1	1	1	1	-	ss	-	-	1	1	1838	1838	2001	329	344	-		
Siskiyou Mountains salamander <i>Plethodon stormi</i> , South Range	A	off		C	1	2	2	1	ss	ss-o	ss	-	-	2	30	30		19	20	-		
Siskiyou Mountains salamander <i>Plethodon stormi</i> , North Range	D	off		C	1	2	2	1	ss	ss-o	ss	-	-	2	143	143		182	185	-		

TAXA GROUP Species	Category Assignment for each Alternative (see Table A)				Outcomes ¹				Special Status Species Programs ^{2,8} (SSSP)				Outcomes ¹ without SSSP ⁵			Known Sites during the last ASR or 2004 SEIS			Additional Known Sites since the last ASR or 2004 SEIS ⁷		
	Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 1	Alt. 2	Alt. 3	Alt. 4	BLM OR/ WA	BLM CA	FS R-6 ⁹	FS R-5 ⁹	Alt. 1	Alt. 2	Alt. 3	Federal Land Only	Total	ASR Year	Federal Land Only	Total	RMS sites ⁶
MOLLUSKS																					
<i>Ancotrema voyanum</i>	off		E	1	1	1	1	-	-	-	-	-	-	-	-	-	285	2003	41	41	24 ³
<i>Fluminicola</i> n. sp. 1	off		A	1	1	1	1	ss	-	ss-o	-	-	1	1	-	3	27	2001	2	5	0
<i>Fluminicola</i> n. sp. 2	off		A	1	1	1	1	-	-	ss-o	-	-	1	1	-	0	1	2001	0	0	0
<i>Helminthoglypta hertleinii</i>	off		B	1	1	1	1	ss	ss	ss-o	-	-	1	1	-	97	97	2002	103	110	3 ³
<i>Helminthoglypta talmadgei</i>	D	off	A	1	1	1	1	-	ss	-	-	-	1	1	-	761	761		370	370	0
<i>Hemphillia burringtoni</i>	E	off	A	1	1	1	1	-	-	ss-w	-	-	1	1	-	17	55		7	7	1
<i>Hemphillia glandulosa</i> , In WA: Olympic Peninsula and OR: Coast Range		off	C	1	1	1	1	-	-	ss-w	-	-	1	1	1	1084	1132	2001	412	412	8
<i>Hemphillia glandulosa</i> , In WA Western Cascades Physiographic Province	E	off		1	1	1	1	-	-	ss-w	-	-	1	1	-	139	140		13	13	0
<i>Hemphillia malonei</i> , Oregon		off	C	1	1	1	1	-	-	ss-w	-	-	1	1	1	585	619	2001	350	350	8
<i>Megomphix hemphilli</i> , North of south boundary of Lincoln, Benton, and Linn Counties, Oregon		off	A	1	1	1	1	-	-	-	-	-	-	-	-	813	825	2003	138	139	3
<i>Megomphix hemphilli</i> , South of south boundary of Lincoln, Benton, and Linn Counties, Oregon		off	F	1	1	1	1	-	-	-	-	-	-	-	-	1119	1119	2003	21	23	1
<i>Monadenia churchi</i>		off	F	1	1	1	1	-	-	-	-	-	-	-	-	2213	2372	2001	652	652	56 ³
<i>Monadenia infumata ochromphalus</i> (syn. <i>M. fidelis klamathica</i> and <i>M. f. ochromphalus</i> , <i>M. f. salmonensis</i>)		off	B	1	1	1	1	-	-	-	-	-	-	-	-	223	223	2003	0	0	16 ³
<i>Pristiloma arcticum crateris</i>	A	off	B	1	1	1	1	ss	-	ss-o	-	-	-	-	-	90	90		119	119	0
<i>Vorticifex klamathensis sinitisini</i>		off	E	1	1	1	1	-	-	ss-o	-	-	1	1	-	0	7	2001	0	0	0
VASCULAR PLANTS																					
<i>Corydalis aquae-geladae</i>	A	off	C	1	1	1	1	ss	-	ss	-	-	-	-	-	102	110		26	26	-
<i>Cyripedium fasciculatum</i> , WA Eastern Cascades physiographic province		off	C	1	1	1	1	ss-o as-w	ss	ss	ss	ss	3	3	3	147	147	2002	33	33	-
<i>Cyripedium montanum</i> , WA Eastern Cascades physiographic province		off	C	3	3	3	1	-	NA	-	NA	-	-	-	-	274	274	2001	21	21	-

² SSSP Codes:

- ss Bureau Sensitive or Forest Service Sensitive as Bureau Assessment
- ss-o Sensitive in Oregon
- ss-w Sensitive in Washington
- NA Species is on SSSP in this region or state, but was not on or removed from Survey and Manage in this region or state.

- ¹ Outcomes:
- 1 - Sufficient Habitat
 - 2 - Sufficient Habitat but Insufficient Habitat in a Portion of their Range
 - 3 - Insufficient Habitat
 - 4 - Insufficient Information to Determine and Outcome

³ Surveyed as part of the GOB(G2K) Survey. See Table E for more information
⁴ For the *Nephtroma bellum* in this portion of its range, under the scenario of Alternative 4 without SSSP, the outcome is also 2 (Sufficient Habitat but Insufficient Habitat in a Portion of its Range)
⁵ Applies only to species assumed to be on one or more SSSP, and only to alternatives where species is "off" Survey and Manage
⁶ RMS sites: Please see Table E for more information about the Random Multi-Species Surveys
⁷ Additional sites since the last ASR or the 2004 FSEIS. For species that were not included in the July Draft Supplement, the known site numbers are the result of a data call with a cutoff date of 11/22/06.
⁸ Actual SSSP assignments. Supplement text uses "assumed placements" because managers have the discretion to add or remove species outside of the SEIS process.
⁹ FS R-5: Forest Service, Region 5 (California); FS R-6: Forest Service, Region 6 (Oregon and Washington)

Chapter 3 & 4 – Affected Environment and Environmental Consequences

Introduction

This chapter describes aspects of the environment likely to be most directly affected by the proposed management, in this case background material and outcomes (effects of the alternatives) for the 85 species previously affected by the 2001, 2002, and 2003 Annual Species Reviews (ASRs). Fifty-eight of these species, in all or at least part of their range, were not previously addressed by the 2004 FSEIS or July 2006 Draft Supplement. This chapter also describes the effects of the additional no-action alternative, both to species and to potentially habitat-disturbing forest management activities such as fuels treatments and timber harvest. Together, these descriptions and effects form the basis for the *Comparison of Alternatives* section in Chapter 2. Like other species already addressed in the 2004 FSEIS and July 2006 Draft Supplement, additional information regarding the existing environment for the species included in this analysis may be found in the 2000 Survey and Manage Final SEIS and the 1994 NWFP FSEIS, Appendix J2 (see <http://reo.gov/s-m2006>). Species-specific summaries of the ASRs appear in Appendix 9.

Timber Harvest, Wildland and Prescribed Fire, Costs of Management, and other Non-Survey and Manage Species-Specific Resources

The effects of the alternatives on timber harvest, costs of management, wildland and prescribed fire, socioeconomic effects, threatened and endangered species, and other non-Survey and Manage species-specific resources are described in detail in the 2004 FSEIS and July 2006 Draft Supplement. Additional information about effects to those resources resulting from the addition of Alternative 4 including its 58 additional species for all or part of their range and changes to Alternative 3, are addressed for each of the four alternatives as follows:

Alternatives 1 and 2

Alternative 1 is unchanged from the 2004 FSEIS/July 2006 Draft Supplement, and therefore the effects to resources other than Survey and Manage species are unchanged from those previously displayed. Alternative 2 is changed only in that it would remove 58 more species in all or part of their range when compared with Alternative 4 versus Alternative 1, but the overall result would be to remove Survey and Manage. If any of the additional 58 species that have been off of Survey and Manage for over three years were going to be assigned to the Agencies' Special Status Species Programs, they already would have been and therefore any effects to timber harvest or other activities would have already been considered in the 2004 FSEIS analysis of these resources. Seventeen of these 58 species have been so assigned, and since these assignments predate the 2004 FSEIS they were considered in the effects discussions in that document. Thus no additional effects to timber harvest or other non-Survey and Manage species-specific resources would be incurred by Alternatives 1 or 2, even considering the increased number of species in Alternative 2.

Alternative 3

Alternative 3 is changed (reconfigured) based on the species included in the "rare" categories in Alternative 4 instead of Alternative 1. Only "rare" species categories remain on Survey and Manage in Alternative 3. Compared to Alternative 3 in the 2004 FSEIS, 7 species are removed

from Survey and Manage and 12 are added because of category changes. Also 33 species are returned to Survey and Manage in this Alternative, for a net increase of 38 species.

An analysis assumption for the species new to this alternative in all or part of their range, as well as for category differences between this and Alternatives 3 in the 2004 FSEIS, is that if this alternative is adopted, a revised species review process would begin, and changes previously adopted during the 2001, 2002, and 2003 Annual Species Reviews would most likely be reinstated. The Ninth Circuit did not address whether species were sufficiently protected or if the species removal criteria were flawed, only that the planning and NEPA processes required for plan amendments were not followed with respect to one such species, the red tree vole in its Mesic Biological Zone.

The Annual Species Review process considered copious amounts of information (summarized in Appendix 9), rigorously judged against specific criteria spelled out in the 2001 Record of Decision. The Agencies made changes only where new information clearly indicated the species' status had changed relative to the Three Basic Criteria for Survey and Manage. Because this copious information has already been carefully considered by the Agencies, and the specified criteria are those already published and used to categorize and remove species in the 2000 FSEIS, it would be reasonable to expect those ASR decisions to represent the preferred alternative in any subsequent proposal including proposals which are determined to require plan amendment and associated NEPA analysis. The Agencies would of course rigorously comply with their responsibilities to consider any new information revealed during the analysis or resulting from public comments, and could arrive at a different decision after that consideration. Nevertheless, hypothetically, but in the interest of providing the public with a fair comparison of alternatives in this analysis, the Agencies believe that it is reasonable to assume that if the processes required by the Ninth Circuit for the Mesic Zone red tree vole were used for other species also previously addressed in the 2001-2003 ASRs, the Agencies are more likely than not to select the preferred alternative, and that on average and on the whole, the previously made species category changes or species removals would reoccur.

This assumption is wholly consistent with assumptions used in the 2000 and 2004 calculations of timber harvest and fuels treatment effects. The 1994 Survey and Manage Standards and Guidelines specified that "As experience is acquired with these requirements, agencies may propose changes ... These changes could include... dropping this mitigation requirement for any species whose status is determined to be more secure than originally projected" (USDA, USDI 1994b: C-6). Similarly, the 2004 FSEIS alternatives included the ASR process for adding, removing, and changing categories for species. To simulate species removals, managed site acreage projections were capped in the timber harvest effects calculations in the 2000 and 2004 FSEISs (2004 FSEIS p. 224). Those capped species site acreage projections from the *Timber Harvest* section were applied to the *Wildland and Prescribed Fire* section as well.

Thus even if the previous ASR decisions were not assumed as likely to reoccur, the previously used analysis capping of projected site numbers to simulate the adaptive management process would simulate removal of many of these same species, particularly those common enough to have a significant effect on fuel treatments, costs of management, timber harvest, and other non-Survey and Manage species-specific resources. Failure to simulate a removal process during effects modeling would cast Survey and Manage in an unrealistically negative light with respect to adverse effects on other Northwest Forest Plan goals. No such prohibition should be assumed or inferred from the Ninth Circuit Court decision.

The result of this assumption is that effects to timber harvest, costs of management, wildland and prescribed fire, and other potentially habitat-disturbing management activities under this alternative are expected, at least after the first one to two years, to be the same as those described for Alternative 3 in the July 2006 Draft Supplement and 2004 FSEIS.

In the short term, for the one to two years potentially required to conduct any planning steps that may be identified by the above referenced reconsideration, Alternative 3 would adversely

affect timber harvest and other potentially habitat-disturbing management activities including fuels management. Achievement of fiscal year 2007 and 2008 timber sale targets would be reduced 20 to 25 million board feet per year (about 4 percent of the 530-600 million board feet target) by Alternative 3 when compared to the effects of the Alternative 3 described in the July 2006 Draft Supplement. Short term effects to fuels treatment and other management activities are less than four percent of those programs because of shorter planning lead-time requirements and the greater availability of substitute treatment methods and locations. Short term costs to conduct the planning and NEPA analysis associated with the above assumption would be \$2 to \$3 million spread over two years. If the analysis assumption described above proves to be incorrect, effects to timber harvest, fuels treatments, and other management activities could occur for a longer period of time.

Alternative 4

Alternative 4 is an additional No-Action Alternative with 337 species on Survey and Manage, each in the category to which it was assigned in the 2001 Survey and Manage Record of Decision. Compared with No-Action Alternative 1, it includes 42 more species in all of their range, and another 16 in part of their range. It also includes 32 species with changed categories in all or part of their range, 5 of which are ones also removed in (the other) part of their range.

For the analysis reasons described for Alternative 3 above, Alternative 4 is expected to have the same effects on timber harvest, costs, wildland and prescribed fire, and other non-Survey and Manage species-specific resources as Alternative 1. That is, for purposes of analysis, the Agencies assume that if Alternative 4 were selected, a revised species review process would begin, and changes previously adopted during the three Annual Species Reviews would most likely be reinstated. And although further analysis and public review might expose new information, the previous thorough analysis of these species during the ASRs make it reasonable to assume that most or all of the previously made species removals and category changes would likely reoccur, and Alternative 4 would be expected to look very much like Alternative 1 at the end of that process.

The result of this assumption is that effects to timber harvest, costs of management, wildland and prescribed fire, and other potentially habitat-disturbing activities under this alternative are expected, after the first one to two years, to be the same as those described for Alternative 1 in the July 2006 Draft Supplement and 2004 FSEIS.

In the short term, for the one to two years potentially required to conduct any planning steps that may be identified by the above-referenced reconsideration, Alternative 4 would adversely affect timber harvest and other potentially habitat-disturbing management activities including fuels management. Achievement of fiscal year 2007 and 2008 timber sale targets would be reduced 80 to 100 million board feet per year (about 16 percent of the 530-600 million board feet target) under Alternative 4 when compared to the effects under Alternative 1. These short term effects are substantially higher than those projected for Alternative 3 because the “uncommon” species are included in Survey and Manage under Alternative 4, including the red tree vole. Short term effects to fuels treatment and other management activities are less than 16 percent of those programs because of shorter planning lead-time requirements and the greater availability of substitute treatment methods and locations. Short term costs to conduct the planning and NEPA analysis associated with the above assumption would be \$2 to \$3 million spread over two years. If the analysis assumption described above proves to be incorrect, effects to timber harvest, fuels treatments, and other management activities could occur for a longer period of time.

Survey and Manage Species – Affected Environment and Environmental Consequences

Introduction

For species removed from Survey and Manage during Annual Species Reviews of 2001, 2002, and 2003 and not assigned to the Agencies Special Status Species Programs, pre-disturbance surveys generally ceased and other species information gathering waned after they were removed. However, the close examination conducted during the ASRs, and its resultant documentation (summarized in Appendix 9), represent the most comprehensive compilation of information about those species since the 2000 FSEIS. Following the ASRs, and although removed from Survey and Manage, many of these species continued to be found during other surveys. Most continued to be identified during the Random Multi-Species Surveys (See Table E at the end of this chapter). Finally, a November 2006 data-call to all Agency field units, as well as queries of Agency databases, provided taxa specialists with the most up-to-date site information possible (see Table C). This information, along with that presented in the 2000 and 1994 FSEISs, and available publications and pertinent research, was used in the analysis of effects for these additional species for each of the four alternatives.

Background – Random Multi-Species Surveys

The July 2006 Draft Supplement described the Random Multi-Species (RMS) Survey as an example of a statistically-based probability-sampling survey. It used a double sample design of random and systematic sampling that allows unbiased detection estimates and species associations with reserve land allocations and late-successional forest. The Agencies completed the field survey portion of the RMS Surveys in Autumn 2004, using a stratified sample of Continuous Vegetation Surveys (CVS) and Forest Inventory and Analysis (FIA) plots. The percentages of plots by strata were as follows:

60%	Reserve and late-successional/old-growth forest
20%	Reserve and non-late-successional/old-growth forest
10%	Matrix and late-successional/old-growth forest
10%	Matrix and non-late-successional/old-growth forest

The survey sampled 750 botany plots, 658 fungi plots, and 509 mollusk plots (mollusks were only sampled in Oregon and Washington). Analysis of the results is complex and necessarily species and taxa-specific. Although detailed species-specific interpretations of the results have not been completed, the numbers of detections are displayed in Table C, and the numerical expansion (statistical inference) of the plot results has been completed and is displayed on Table E at the end of this chapter for the 85 species included in this Supplement. The displayed data expansion covers the entire NWFP area, however information for some species may under-represent their occurrence because surveys sometime did not record species removed from Survey and Manage by the 2001 ASR. Detections shown on Table C apply only to the area where the species is on Survey and Manage.

Detections in the statistical sample are used to estimate detections across the sample area. For the RMS Survey, the population was stratified so that a detection in one stratum does not necessarily represent the same area as a detection in another stratum. For example, each sample plot represents anywhere from 7,000 to over 200,000 similar areas (i.e., plots of the same size), depending upon the species and strata. Since there is uncertainty (standard error) associated with sampling, a 95% confidence interval (C.I.) has been calculated to give a range of plausible values of the true, unknown number (see Table E at the end of this chapter.)

Species Effects

Known site numbers, assumed Special Status Species Program assignments, outcomes and other information about each of the 85 species included in this Supplement are included on Table C at the end of Chapter 2. Only species removed from Survey and Manage or which changed category during the 2001, 2002, and 2003 Annual Species Reviews (and therefore assigned differently between Alternatives 1 and 4) are included here. The 58 species removed from Survey and Manage in all or part of their range by the ASRs and now included in Alternative 4 were not addressed by the 2004 FSEIS or July 2006 Draft Supplement, at least for the portion of their range where they had been removed. For these species, the analyses below are new; this is the first programmatic NEPA discussion of these species since the 2000 FSEIS.

Effects for the 32 species for which the ASRs simply changed categories were addressed in the 2004 FSEIS and July 2006 Draft Supplement, but that analysis did not include Alternative 4. Those previous effects analyses are included here and revised to include the additional no-action alternative, Alternative 4 and, in some cases, reflect new information resulting from the July-October 2006 public comment period on the July 2006 Draft Supplement.

For the 16 species removed from Survey and Manage by the ASRs “in part of their range”, the species discussions below are split between that “part”, and the rest of the range. That is, if one of the ASRs removed a species from Survey and Manage in Oregon and Washington only, (so that portion of the range is now on Survey and Manage in Alternative 4 but not in Alternative 1), this Supplement provides a discussion and outcome for that portion of the range separate from any previous or new discussion for other parts of the range (in this example, California.) Resultant outcomes are also split on tables within the Supplement. This approach maintains the integrity of previous species discussions, preventing the “new” more secure area from overwhelming and obscuring previous effects determinations for areas where the species was retained in Survey and Manage because it was less secure. This approach also permits a more direct comparison between the effects of Alternatives 1 and 4.

The individual species discussions below are not in the errata format used in the July 2006 Draft Supplement, but present the entire 2004/2006 analysis for those species. This approach is used in part because many of the species addressed in this Supplement were not addressed in the 2004 FSEIS/July 2006 Draft Supplement, and in part because the Agencies wanted to display the implications of the Ninth Circuit decision in one document.

For the other 252 Survey and Manage species previously addressed in the 2004 FSEIS and July 2006 Draft Supplement but not included in this Supplement, the effects of Alternative 4 are exactly the same as the effects of Alternative 1 already described in those previous documents, and the effects described for Alternatives 2 and 3 are unchanged.

Bryophytes

Buxbaumia viridis (Oregon and Washington only)(new to this analysis)

The 2001 Annual Species Review (ASR) determined *Buxbaumia viridis* to be secure in Oregon and Washington because it had a moderate to high number of sites, a significant number of sites in reserves, a high likelihood of additional sites and suitable habitat reserves, and the sites were well distributed within its range (USDA, USDI Species Review Panel 2001). The 2001 ASR documentation also notes that the species is found in young stands as well as in late-successional and old-growth stands. At that time, there were 637 known sites in Oregon and Washington, 536 of which were on federal land. Since that time, an additional 202 sites have been reported (GeoBOB database). Nineteen additional detections are identified in the Oregon and Washington RMS data. This data projects that there would be approximately 750,100 (SE = 204,500) expected 0.2 ha detections in Oregon and Washington (Table E). This is

probably a conservative estimate because data may not have been consistently collected for this species after the 2001 ASR removed it from Survey and Manage in Oregon and Washington. This new information collected since 2001 is consistent with the findings from the ASR.

Under Alternatives 1, 2, and 3, this species is removed from Survey and Manage and not assumed to be in the Agencies' Special Status Species Programs in Oregon or Washington. However, because it has a large number of known and projected sites, a significant number of sites in reserves, a high likelihood of additional sites and suitable habitat reserves, well distributed sites within its range, and the suitable habitat is not entirely restricted to late-successional/old-growth stands, habitat (including known sites) is sufficient to provide for stable populations for this species under Alternatives 1, 2, and 3 in Oregon and Washington.

Under Alternative 4, this species would be included in Category D, which includes management of high-priority sites and strategic surveys. For the reasons listed for Alternatives 1, 2, and 3, habitat (including known sites) is sufficient to provide for stable populations for this species under Alternative 4 in Oregon and Washington.

***Buxbaumia viridis* (California only)(changed category)**

The 2004 FSEIS showed *Buxbaumia viridis* known from four sites in northern California, three of which occur on National Forest System lands outside of reserves. Two new sites have been found in California since the 2004 FSEIS. Given the low number of sites, loss of any site could affect populations to the point of leading to insufficient habitat in northern California. Although this species has a broad global distribution (USDA, USDI 2000a:235), it is widely scattered elsewhere and it is listed as vulnerable on the European Red List (Hallinback 1998).

Under Alternative 1, this species would be included in Category E, which requires strategic surveys and management of all known sites. Under Alternative 4, this species would be included in Category D, which requires strategic surveys and management of high-priority sites, which all federal sites in California are assumed to be. *Buxbaumia viridis* would stabilize in a pattern similar to its reference distribution (USDA, USDI 2000a:237). Due to protection of known sites, habitat (including known sites) is sufficient to provide for stable populations under Alternatives 1 and 4.

Under Alternatives 2 and 3, this species is assumed to be included in the Special Status Species Programs for the Forest Service and BLM in California. Due to inclusion in the Agencies' Special Status Species Programs where known sites would be managed, habitat (including known sites) is sufficient to provide for stable populations under Alternatives 2 and 3. Under Alternatives 2 and 3 without SSSP, loss of habitat and sites would be expected to occur. Therefore, because of the low number of known sites, there is insufficient habitat (including known sites) to support stable populations in the California portion of the NWFP area under Alternatives 2 and 3 without SSSP.

***Diplophyllum albicans* (new to this analysis)**

The 2002 ASR documentation (USDI, USDA Species Review Panel 2002) indicates that *Diplophyllum albicans* shows closer ties to moist, cool microsites than to late successional forest. While the species is documented to occur in LSOG, it does not appear to require LSOG habitat components. While it is known to occur on organic substrates such as decaying logs and trunks of living trees, it also is found on north-facing talus slopes, crevices in rock outcrops, west-facing road cut-banks, trail soil banks, cliff faces and stream banks. It has also been found in a bog. There are numerous sites along the coast where higher moisture is a shared condition, but location in late-successional stands is not. The Matrix downed log and green tree retention standards together contribute to the persistence of this species.

There are a relatively high number of known sites for this species, and the Annual Species Review record shows approximately 45% are in Late-Successional or Congressional Reserves. This species is widely distributed, and is found in five provinces within western Washington and western Oregon north of the Klamath Province. It appears to be well distributed throughout the Coast Range and along the western slope of the Cascades in Washington and Oregon. There are 25 detections from Random Multi-Species Surveys. Based on this number of detections, it is projected that there are at least 1,218,800 occurrences (standard error = 298,100) of this species within the NWFP area (Table E). The species is likely under-represented in Agency databases because pre-disturbance surveys have not been required.

Under Alternatives 1, 2, and 3, this species is removed from Survey and Manage and not assumed to be in the Agencies' Special Status Species Programs. However, because of the high number of documented and projected sites, the number of sites and potential habitat in reserves, and its wide ecological amplitude, habitat (including known sites) is sufficient to provide for stable populations for this species under Alternatives 1, 2, and 3 across the NWFP area.

Under Alternative 4, this species would be included in Category D, which includes management of high-priority sites and strategic surveys. For the reasons listed for Alternatives 1, 2, and 3, habitat (including known sites) is sufficient to provide for stable populations for this species under Alternative 4 across the NWFP area.

***Encalypta brevicolla* var. *crumiana* (new to this analysis)**

The 2002 ASR determined that *Encalypta brevicolla* var. *crumiana* was not associated with late-successional and old-growth habitats (USDI, USDA Species Review Panel 2002). At that time, this species was known from only two locations in the world. There is an historic location in Mt Rainier National Park from 1937 and a site at Squirrel Peak on the Siskiyou National Forest that was relocated as part of a 2002 purposive survey. Three additional sites were subsequently discovered on the Siskiyou National Forest in 2005 on other open rock outcrops in Curry and Coos Counties.

Under Alternatives 1 and 2, this species is assumed to be on the Forest Service sensitive list in Region 6. Under Alternatives 3 and 4, this species would be included in Category B, which includes management of known sites, equivalent effort surveys until strategic surveys are completed, and strategic surveys. The 2000 FSEIS found that because of low known site numbers, there was insufficient information to determine an outcome. That remains the case under all alternatives including Alternatives 1 and 2 without SSSP.

***Herbertus aduncus* (changed category)**

This species extends from Alaska to Oregon where it reaches the southern edge of its range in western North America. Recent purposive surveys have located several additional populations in the Columbia Gorge and on the Mt. Baker-Snoqualmie National Forest. Current information indicates that this species is rare and limited in distribution (USDA, USDI 2000a:230).

Under Alternatives 1, this species would be included in Category E, which requires management of all known sites and strategic surveys. Under Alternatives 3 and 4, this species would be included in Category B, which requires management of known sites, equivalent effort surveys until strategic surveys are determined to be completed, and strategic surveys. Due to low number of sites, there is insufficient information to determine how any alternative would affect distribution and stability of this species (USDA, USDI 2000a:230). There is insufficient information to determine an outcome under Alternatives 1, 3 and 4.

Under Alternative 2, this species is assumed to be Bureau Assessment on BLM managed lands in Oregon where known sites would be managed. It is assumed not to be included as Forest

Service sensitive. Known sites on Forest Service managed lands would no longer be managed and strategic surveys would not occur. Under Alternative 2 with or without SSSP, there is the potential for loss of some known sites (most of the known sites are in State or National Parks). However, there remains insufficient information to determine an outcome under Alternative 2 with or without SSSP.

***Racomitrium aquaticum* (changed category)**

Most of the western North American material of this species has been proposed for a name change to *Racomitrium ryszardii*. It is a recent proposal that has not had time to be evaluated by the North American bryological community (USDA, USDI 2002b). This is a taxonomically difficult genus, and this species is often misidentified or overlooked when collections are made. Contrary to this species' name (*aquaticum*), it is not an aquatic species (Harpel 2003 pers. comm.). It has been recently determined that California material previously identified as this species may be neither *R. aquaticum* nor *R. ryszardii* ((Norris and Shevock 2004).

At least 31 known sites, including 6 RMS Survey detections, are now documented within the NWFP area. Based on the number of RMS Survey detections, it is projected that there are at least 287,200 occurrences (standard error = 120,500) of this species within the NWFP area. The apparent contradiction between the relatively small number of known sites and the large number of projected occurrences is likely, in part, due to under-collection associated with the great difficulty in recognizing this species in the field. With the assumption that Oregon and Washington material currently identified as *R. aquaticum* represents no more than a single taxonomic entity, there now appears to be sufficient information to determine outcome for this species.

Under Alternative 1, this species would be included in Category E, which requires management of all known sites and strategic surveys. Under Alternative 2, this species is removed from Survey and Manage and not assumed to be in the Agencies Special Status Species Programs within the NWFP area. Under Alternatives 3 and 4, this species would be included in Category B, which requires management of all known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. While this species has only a moderate number of documented sites, the combination of difficult specimen identification and the very large number of projected occurrences indicates that, under all alternatives, *Racomitrium aquaticum* has habitat (including known sites) that is sufficient to support stable populations in the Northwest Forest Plan area.

***Rhizomnium nudum* (Washington only)(new to this analysis)**

The 2002 ASR reports that *Rhizomnium nudum* is well distributed within the eastern and western Cascades of Washington and on the Olympic Peninsula (USDI, USDA Species Review Panel 2002). Well over 200 sites are now documented within the state, with more than 50% of these included within reserve allocations or their equivalent. There are 21 RMS Survey detections for this species in Washington. Analysis including these detections plus another three in Oregon projects at least 1,372,000 occurrences (standard error = 333,000) of this species within the NWFP area (Table E).

Under Alternatives 1 and 2, this species is removed from Survey and Manage and is assumed to be included in the Washington BLM Special Status Species Program. Under Alternatives 3 and 4, this species would be included in Category B, which requires protection of all known sites and strategic surveys (which have been completed.) Given the documentation that, in Washington, this species is numerous, well-distributed, and well-represented in reserves, *Rhizomnium nudum* has habitat (including known sites) that is sufficient to support stable populations in Washington under all alternatives with and without SSSP.

Fungi

This Supplement discusses 36 fungi species, which includes 30 in all of their range and 6 in a portion of their range. Twenty-seven are new to this analysis, as they were removed as part of the 2001-2003 Annual Species Reviews. The remaining nine changed categories as part of the Annual Species Reviews. Under Alternative 1, nine of these fungi species would be included in the Survey and Manage Standards and Guidelines, and two species would be included in the Agencies' Special Status Species Programs. Under Alternative 2, four of these 36 species would be included in the Agencies' Special Status Species Programs. Under Alternative 3, there would be 27 species included in the Survey and Manage Standards and Guidelines. Under Alternative 4, all 36 of the fungi discussed in the Supplement would be included in the Survey and Manage Standards and Guidelines.

Group 4

Under all alternatives, the following 34 species, (28 in all of their range and 6 in part of their range) would maintain stable populations largely due to the high number of occurrences, or because a substantial number of known sites are located in reserves. These species would stabilize in a pattern similar to or different from their reference distribution. For all alternatives, habitat (including known sites) is sufficient to support populations in the Northwest Forest Plan area.

Albatrellus flettii (Alt 1: off, Alts 3&4: B), in OR
Bondarzewia mesenterica (Alt 1: off, Alts 3&4: B), in OR
Cantharellus subalbidus (Alt 1: off, Alt 4: D), in OR
Chromosera cyanophylla (Alt 1: off, Alts 3&4: B)
Clavariadelphus truncatus (Alt 1: D, Alts 3&4: B)
Collybia bakerensis (Alt 1: F, Alts 3&4: B)
Cordyceps capitata (Alt 1: off, Alts 3&4: B)
Craterellus tubaeformis (Alt 1: off, Alt 4: D)
Galerina atkinsoniana (Alt 1: off, Alts 3&4: B)
Galerina vittaeformis (Alt 1: off, Alts 3&4: B)
Gomphus clavatus (Alt 1: F, Alts 3&4: B)
Gymnopilus punctifolius (Alt 1: off, Alts 3&4: B), in OR and WA
Gyromitra esculenta (Alt 1: off, Alt 4: F)
Gyromitra infula (Alt 1: off, Alts 3&4: B)
Gyromitra melaleucoides (Alt 1: off, Alts 3&4: B)
Gyromitra montana (Alt 1: off, Alt 4: F)
Helvella maculata (Alt 1: off, Alts 3&4: B)
Hydnum umbilicatum (Alt 1: off, Alts 3&4: B)

Mycena monticola (Alt 1: off, Alts 3&4: B)
Mycena overholtsii (Alt 1: D, Alts 3&4: B)
Neourmula pouchettii (Alt 1: off, Alts 3&4: B)
Nivatogastrium nubigenum (Alt 1: off, Alts 3&4: B), in OR Eastern Cascades and CA Cascades Physiographic Provinces
Otidea leporina (Alt 1: D Alts 3&4: B)
Otidea onotica (Alt 1: off, Alt 4: F)
Pithya vulgaris (Alt 1: off, Alt 4: D)
Plectania melastoma (Alt 1: off, Alt 4: F)
Plectania milleri (Alt 1: off, Alts 3&4: B)
Phaeocollybia olivacea (Alt 1: E and F, Alts 3&4: B)
Ramaria rubripermanens (Alt 1: D, Alts 3&4: B), in OR
Sarcodon imbricatus (Alt 1: off, Alts 3&4: B)
Sarcosoma latahense (Alt 1: off, Alts 3&4: B)
Sarcosoma mexicana (Alt 1: off, Alt 4: F)
Sarcosphaera eximia (Alt 1: off, Alts 3&4: B)
Turbinellus floccosus (Alt 1: off, Alt 4: F)

Gomphus bonarii is a synonym of *Turbinellus floccosus* (Schwein) Earle, which is the correct name for *Gomphus floccosus* (Giachini 2004).

Chomosera cyanophylla, *Cordyceps capitata*, *Galerina vittaeformis*, *Gyromitra esculenta*, *Gyromitra influa*, *Gyromitra melaleucoides*, *Gyromitra montana*, *Helvella maculate*, *Hydnum umbilicatum*, *Mycena monticola*, *Neourmula pouchettii*, *Otidea onotica*, *Pithya vulgaris*, *Plectania melastoma*, *Plectania milleri*, *Sarcosoma latahense*, *Sarcosoma mexicana*, and *Sarcosphaera eximia* were removed from the Survey and Manage Standards and Guidelines during the 2001-2003 Annual Species review process because they were found to be not associated with LSOG and would have sufficient habitat to support stable populations without species-specific management (USDI, USDA Species Review Panel 2001, 2002, and 2003).

Albatrellus flettii (in OR), *Bondarzewia mesenterica* (in OR), *Cantharellus subalbidus* (in OR), *Craterellus tubaeformis*, *Galerina atkinsoniana*, *Gymnopilus punctifolius* (in OR and WA),

Nivatogastrium nubigenum (in OR Eastern Cascades and CA Cascades Physiographic Provinces), and *Sarcodon imbricatus* were removed from the Survey and Manage Standards and Guidelines during the 2001-2003 Annual Species review process because they were found to have sufficient habitat to support stable populations without species-specific management (USDI, USDA Species Review Panel 2001, 2002, and 2003).

Clavariadelphus truncates, *Collybia bakerensis*, *Gomphus clavatus*, *Mycena overholtsii*, *Otidea leporine*, *Phaeocollybia olivacea*, and *Ramaria rubripermanens* (in OR) changed from being managed under Category B into management under Categories D, E or F during the 2001-2003 Annual Species review process. All four categories require strategic surveys. In addition, Categories B and E require managing all known sites, while Category D requires managing high-priority sites (USDI, USDA Species Review Panel 2001, 2002, and 2003).

Under Alternative 1, seven of these species, (6 in all of their range and 1 in part of its range) would be included in Categories D, E, or F as indicated by the letter in parens. All three categories require strategic surveys. In addition, Category E requires managing all known sites, while Category D requires managing high-priority sites. The remaining species (5 in part of their range and 22 in all of their range) would be off Survey and Manage. *Cordyceps capitata* and *Mycena monticola* are assumed to be included as sensitive species by the Forest Service in Region 6. Pre-project clearances would be conducted and sites would be managed if loss of sites would contribute to a trend toward listing. General inventories may be conducted.

Under the scenario of Alternative 1 without SSSP, the outcome for *Cordyceps capitata* and *Mycena monticola* is also habitat (including known sites) is sufficient to support stable populations across the NWFP area.

Under Alternative 2, 31 of these 34 species are assumed not to be included in any of the Agencies' Special Status Species Programs. Sites would no longer be managed and strategic surveys would no longer be required. The remaining three species are assumed to be included in one or more of the Agencies' Special Status Species Programs. Pre-project clearances would be conducted and sites would be managed if loss of sites would contribute to a trend toward listing. General inventories may be conducted. *Cordyceps capitata* and *Mycena monticola* are assumed to be included as a sensitive species by the Forest Service in Region 6. *Phaeocollybia olivacea* is assumed to be included as a sensitive species by the Forest Service and BLM in California and Oregon.

Under the scenario of Alternative 2 without SSSP, the outcome for *Phaeocollybia olivacea* (in OR) is habitat (including known sites) is insufficient to support stable populations across the NWFP area. *Cordyceps capitata*, *Mycena monticola*, and *Phaeocollybia olivacea* (in CA and WA) would have outcomes of habitat (including known sites) is sufficient to support stable populations across the NWFP area.

Under Alternative 3, 20 species in all of their range and 5 species in part of their range would be included in category B as indicated by the letter in parens. The nine remaining species are assumed not to be included in any of the Agencies Special Status Species Programs. Sites would no longer be managed and strategic surveys would no longer be required.

Under Alternative 4, all 34 species would be included in Categories B, D, or F as indicated by the letter in parens. All four categories require strategic surveys. In addition, Category B requires managing all known sites, while Category D requires managing high-priority sites.

The RMS surveys have provided new information about some fungi species, which indicate that the species are not as uncommon, and are better distributed, than previously thought. *Ramaria rubripermanens*, in Oregon, had nine RMS detections and eight of the nine RMS detections were on reserve lands.

Group 5

The following species is not endemic to the Northwest Forest Plan area. Under Alternatives 1, 3, and 4, this species would be included in Categories B or D. Both categories require strategic surveys. Category B requires management of known sites. Category D requires management of high-priority sites. For this species, management under the Survey and Manage Standards and Guidelines would allow this species to stabilize in a pattern similar to their reference distribution. Habitat (including known sites) is sufficient to support stable populations in the Northwest Forest Plan area. However, within the Northwest Forest Plan area, due to overall low numbers of sites and low numbers of sites located in reserves, this species has limited potential for connectivity or gene flow between sites or clusters of sites.

Tremiscus helvelloides (Alt 1: D, Alts 3&4: B)

Under Alternative 2, *Tremiscus helvelloides* is removed from Survey and Manage and not included on SSSP. Sites would no longer be managed and strategic surveys would no longer be required. Because the known sites of this species are not otherwise substantially protected by reserves, habitat (including known sites) would be insufficient to support stable populations in the Northwest Forest Plan area. This is due to soil disturbance and/or significant loss of host species (USDA, USDI 2000a:243, and ISMS database).

The RMS survey provided some new information for *Tremiscus helvelloides* (3 RMS detections). The range of expected detections at the 95% confidence interval includes 0. This species has relatively few total known sites.

Group 6

The following species is endemic to the Northwest Forest Plan area or the Pacific Northwest. Under Alternatives 1, 3 and 4 this species would be included in Categories B or E, as indicated by the letters in parens following the species name. Categories B and E require management of known sites and strategic surveys. This species would stabilize in a pattern similar to its reference distribution. Habitat (including known sites) is sufficient to support stable populations in the Northwest Forest Plan area. However, due to overall low numbers of sites and low numbers of sites located in reserves, this species has limited potential for connectivity or gene flow between sites or clusters of sites.

Gomphus kauffmanii (Alt 1: E, Alts 3&4: B)

Under Alternative 2, *Gomphus kauffmanii* would receive management of known sites through the Special Status Species Programs. Pre-project clearances would be conducted and sites would be managed if loss of the site would contribute to a trend toward listing. General inventories may be conducted. *Gomphus kauffmanii*, is assumed to be included as a sensitive species by the Forest Service in Region 6. However, because the known sites of this species are not otherwise substantially protected by reserves, habitat (including known sites) would be insufficient to support stable populations in the Northwest Forest Plan area. This is due to soil disturbance and/or significant loss of host species (USDA, USDI 2000a:243, and ISMS database). Although Matrix Standards and Guidelines provide for minimizing soil and litter disturbance, there is a lack of knowledge about how much disturbance can be tolerated by this species. Loss of even a few known sites could adversely impact persistence within the Northwest Forest Plan area. Under the scenario of Alternative 2 without SSSP, habitat (including known sites) would also be insufficient to support stable populations in the Northwest Forest Plan area.

Lichens

***Bryoria pseudocapillaris* (changed category)**

Recent information for *Bryoria pseudocapillaris* further clarifies its distribution and ecology. A recent study suggests that its world distribution is limited to within 16 km (10 miles) of the California, Oregon and Washington coastlines (with just one, small population outside the NWFP area) (Glavich et al. 2005a). This study identified 14 populations on federal land, ten of which were new (Geiser et al. 2004). Of these 14 populations, only 2 are in reserves. The species was found to be statistically associated with non-reserve land allocations (Glavich et al. 2005a). The habitat for this species was recently defined by late-seral coastal forests in regions of moderate precipitation and winter temperatures (Glavich et al. 2005b). Because temperature is an important factor in the habitat of *Bryoria pseudocapillaris*, this species is likely vulnerable to climate change.

Under Alternative 1, *Bryoria pseudocapillaris* would be included in Category A, which requires pre-disturbance surveys, management of known sites, and strategic surveys. Under Alternatives 3 and 4, this species would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. This species would not maintain stable populations and/or distributions (USDA, USDI 2000a:293). Due to limited potential habitat, few populations on federally managed lands, and the potential for stochastic events, habitat (including known sites) is insufficient to provide for stable populations under Alternatives 1, 3, and 4. This outcome is not due to federal action.

Under Alternative 2, *Bryoria pseudocapillaris* is assumed to be included in the Agencies' Special Status Species Programs as Bureau Sensitive on BLM managed lands in Oregon and California and sensitive on Forest Service managed lands in Oregon and Washington. Known sites would be managed and pre-project clearances would be conducted. General inventories may be conducted. The species is assumed not to be included as sensitive for the Forest Service in California where there is suitable habitat at only one location. This species would not maintain stable populations and/or distributions under Alternative 2 due to limited potential habitat, few populations on federally managed lands, and the potential for stochastic events. Habitat (including known sites) is insufficient to provide for stable populations under Alternative 2, with or without SSSP. This outcome is not due to federal action.

***Bryoria spiralifera* (changed category)**

Recent information for *Bryoria spiralifera* further clarifies its distribution and ecology. A recent study suggests that its world distribution is limited to within 1.6 km (1 mile) of the California, Oregon and Washington coastlines (with just one, small population outside the NWFP area) (Glavich et al. 2005a). This study identified 11 populations on federal land, five of which were new (Geiser et al. 2004). Although the detection sample was too small to test association, none of the 11 populations were in reserves (Glavich et al. 2005a). The habitat for this species was recently defined by late-seral coastal forests in regions of moderate precipitation and winter temperatures (Glavich et al. 2005b). Because temperature is an important factor in the habitat of *B. spiralifera*, this species is likely vulnerable to climate change. The two RMS detections do not demonstrate this species is secure.

Under Alternative 1, *Bryoria spiralifera* would be included in Category A, which requires pre-disturbance surveys, management of known sites, and strategic surveys. Under Alternatives 3 and 4, this species would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys completed, and strategic surveys. This species would not maintain stable populations and/or distributions (USDA, USDI 2000a:293). Due to limited potential habitat, few populations on federally managed lands, and the potential for stochastic events, habitat (including known sites) is insufficient to provide for stable populations under Alternatives 1, 3, and 4. This outcome is not due to federal action.

Under Alternative 2, *Bryoria spiralis* is assumed to be included in the Agencies' Special Status Species Programs as Bureau Sensitive on BLM managed lands in Oregon and California and sensitive on Forest Service managed lands in Oregon. Known sites would be managed and pre-project clearances would be conducted. General inventories may be conducted. This species would not maintain stable populations and/or distributions under Alternative 2 due to limited potential habitat, few populations on federally managed lands, and the potential for stochastic events. Habitat (including known sites) is insufficient to provide for stable populations under Alternative 2 with or without SSSP. This outcome is not due to federal action.

***Bryoria tortuosa* (WA Eastern Cascades, OR Eastern Cascades, OR Klamath, CA Klamath, and CA Cascades Provinces) (new to this analysis)**

Information from the 2002 Annual Species Review indicates that within this portion of the species' range, *Bryoria tortuosa* has a moderate to high number of sites, is well distributed, occurs in a wide range of habitat types, and is typically found in open, "well-lit" forest stands. A total of 650 sites were known at the time of the 2002 ASR (USDI, USDA Species Review Panel 2002). Since the 2002 ASR, 114 additional sites have been reported.

Under Alternatives 1, 2, and 3, *B. tortuosa* is removed from Survey and Manage within this portion of its range. It is assumed to be included in the Special Status Species Program on BLM-managed lands in California. Because the species is relatively common, has a wide range of habitats, and occurs in younger forest stands, habitat (including known sites) under Alternatives 1, 2, and 3 is sufficient to provide for stable populations with or without SSSP.

Under Alternative 4, *B. tortuosa* would be included in Category D, which requires management of high-priority sites and strategic surveys. For the reasons listed under Alternatives 1, 2, and 3, habitat is sufficient to provide for stable populations.

***Bryoria tortuosa* (WA Olympic Peninsula, WA Western Lowlands, WA Western Cascades, OR Western Cascades, OR Coast Range, OR Willamette Valley, and CA Coast Range) (new to this analysis)**

Within this portion of the species' range, the 2002 Annual Species Review indicates there are a low number of known sites and that they are poorly distributed, and that the species is not associated with LSOG (USDA, USDI Species Review Panel 2002). At the time, a total of 18 sites were known. Since the 2002 ASR, one new site has been reported.

Under Alternatives 1 and 2, *B. tortuosa* is removed from Survey and Manage. It is assumed to be included in the Special Status Species Program on BLM managed lands in California. Due to the low number of sites and poor distribution, habitat (including known sites) is insufficient to provide for stable populations. Under Alternatives 1 and 2 without SSSP on BLM managed lands in California, habitat is insufficient to provide for stable populations for the reasons listed.

Under Alternatives 3 and 4, this species would be included in Category A, which requires management of all known sites and pre-disturbance surveys. Because sites would be managed and pre-disturbance surveys conducted, there is sufficient habitat to provide for stable populations under Alternatives 3 and 4.

***Calicium glaucellum* (new to this analysis)**

Information from the 2002 Annual Species Review indicates that this species is more common than previously known. It has a moderate to high number of sites and a high proportion of those sites are likely to occur within reserves (USDA, USDI Species Review Panel 2002). The ASR records show 55 new known sites since the previous species review in 2000. In addition to the new sites, *C. glaucellum* had 35 RMS detections at that time. Since 2002, the total number

of RMS detections has increased to 71, or 8 percent of the total number of plots in the study area. Seventy-six percent of these detections were located within reserves. Since the 2002 ASR, proposive surveys conducted in high probability habitat in western Oregon found *C. glaucellum* to be frequent and broadly distributed in the OR Coast Range, OR Willamette Valley, and OR Western Cascade Range Provinces (Rikkenen 2003).

Under Alternatives 1, 2, and 3, *C. glaucellum* is removed from Survey and Manage and assumed not to be assigned to any Agency Special Status Species Program. Because current information indicates that this species is relatively common, widely distributed within the NWFP area, and that a large proportion of sites are expected to occur within reserves where it is afforded some protection, habitat (including known sites) is sufficient to provide for stable populations across the NWFP area.

Under Alternative 4, *C. glaucellum* would be included in Category F, which requires strategic surveys. Under this alternative, habitat is sufficient to provide for stable populations for the reasons listed under Alternatives 1, 2, and 3.

***Calicium viride* (new to this analysis)**

Information from the 2002 Annual Species Review indicates that this species is more common than previously known (USDA, USDI Species Review Panel 2002). The ASR records show 119 known sites, 45 of which were new since the previous species review in 2000. It was also reported on 18 RMS plots at that time. Since the 2002 ASR, 57 new sites have been reported and the total number of RMS detections has increased to 45, 91 percent of which occur within reserves. Since the 2002 ASR, proposive surveys conducted in high probability habitat in western Oregon found *C. viride* to be frequent in the Willamette Valley and Cascade Range (Rikkenen 2003).

Under Alternatives 1, 2, and 3, *C. viride* is removed from Survey and Manage and assumed to be Bureau Sensitive on BLM managed lands in California where known sites would be managed. Because current information indicates that this species is relatively common and a large proportion of sites are expected to occur within reserves where they are afforded some protection, habitat is sufficient to provide for stable populations under Alternatives 1, 2, and 3 with or without SSSP.

Under Alternative 4, *C. viride* would be included in Category F, which requires strategic surveys. Under this alternative, habitat (including known sites) is sufficient to provide for stable populations across the NWFP area for the reasons listed under Alternatives 1, 2, and 3.

***Chaenotheca furfuracea* (new to this analysis)**

Information from the 2003 Annual Species Review indicates that this species is more common than previously known (USDA, USDI Species Review Panel 2003). The ASR records show 153 known sites and 25 detections from the RMS survey. Since the 2003 ASR, an additional 181 new sites have been reported and RMS detections have increased to 28, 82 percent of which are within reserves. Proposive surveys conducted in high probability habitat in western Oregon since the 2003 ASR found *C. furfuracea* to be frequent and broadly distributed in the OR Coast Range, OR Willamette Valley and OR Cascade Range Provinces (Rikkenen 2003).

Under Alternatives 1, 2, and 3, *C. furfuracea* is removed from Survey and Manage and not assumed to be assigned to any Agency Special Status Species Program. Because current information indicates that this species is relatively common, a large proportion of sites are expected to be within reserves where it is afforded some protection, and it is widely distributed, habitat (including known sites) is sufficient to provide for stable populations across the NWFP area.

Under Alternative 4, *C. furfuracea* would be included in Category F, which requires strategic surveys. Under this alternative, habitat is sufficient to provide for stable populations for the reasons listed under Alternatives 1, 2, and 3.

***Cladonia norvegica* (new to this analysis)**

Information from the 2003 Annual Species Review shows *C. norvegica* is well distributed in the NWFP area and known from 70 sites, of which 53 percent are in reserves. RMS detections were reported to be 37 (USDI, USDA Species Review Panel 2003). Since the 2003 ASR, the total number of RMS detections for the species has been reduced to 28, of which 75 percent of which are within reserves.

Under Alternatives 1 and 2, *C. norvegica* is removed from Survey and Manage and not assumed to be on any Agency Special Status Species Programs. Because current information indicates that this species is relatively common and a large proportion of sites are expected to be within reserves where it is afforded some protection, habitat (including known sites) is sufficient to provide for stable populations across the NWFP area.

Under Alternatives 3 and 4, *C. norvegica* would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. Under these alternatives habitat is sufficient to provide for stable populations for the reasons listed under Alternatives 1 and 2.

***Dendriscoaulon intricatum* (Oregon in Coos, Douglas, Curry, Josephine, and Jackson Counties)(new to this analysis)**

Information from the 2002 Annual Species Review indicates that this species is more common than previously known in southwest Oregon (USDA, USDI Species Review Panel 2002). A total of 489 new sites were reported since the previous species review in 2001, representing an 800 percent increase in known sites. Information also indicated that the species is well distributed across this portion of its range. Since the 2002 ASR, 117 additional sites have been reported.

Under Alternatives 1 and 2, *D. intricatum* is removed from Survey and Manage within this portion of the range and not assumed to be on SSSP in this area. Because current information indicates that this species is relatively common and is well distributed, habitat (including known sites) is sufficient to provide for stable populations under Alternatives 1 and 2.

Under Alternatives 3 and 4, *D. intricatum* would be included in Category B, which requires management of all sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. Under these alternatives, habitat is sufficient to provide for stable populations for the reasons listed under Alternatives 1 and 2.

***Dendriscoaulon intricatum* (Washington, and Oregon except Coos, Douglas, Curry, Josephine, and Jackson Counties)(changed category)**

Habitat preferences and the distribution of *Dendriscoaulon intricatum* within this portion of its range differs from that in southwest Oregon and California. The 2002 Annual Species Review indicates that the species is rare (with 16 sites at that time), is poorly distributed, and the majority of sites occur in late successional Douglas-fir and western hemlock communities. Most of the sites have a suppressed understory of silver fir under a canopy of late-successional and old-growth trees that provide moist, cool conditions (USDA, USDI Species Review Panel 2002). *D. intricatum* most frequently occurs on the lower branches and dead twigs of suppressed, understory western hemlock and Pacific silver fir, which can be quite old. This is in contrast to the remainder of the range in southwest Oregon and California, where the majority of known sites occur in habitat less likely to include late-successional and old-growth

components. New information since the 2004 FSEIS includes six new sites within this portion of the range.

Under Alternative 1, *D. intricatum* would be included in Category A, which requires management of known sites and pre-disturbance surveys. Because all known sites would receive protection and pre-disturbance surveys would be conducted within potential habitat, there is sufficient habitat (including known sites) to provide for stable populations under Alternative 1.

Under Alternative 2, *D. intricatum* would be removed from Survey and Manage. It is assumed to be a Forest Service Sensitive species on Forest Service managed lands in Washington where known sites would be managed. Because this species is rare and poorly distributed within this portion of the range, the potential loss of the Oregon sites (which receive no protection) results in habitat insufficient to provide stable populations under Alternative 2 in Oregon. Habitat (including known sites) is sufficient to support stable populations, but is insufficient to support stable populations in a portion of the area. Under Alternative 2 without SSSP on Forest Service managed lands in Washington, habitat is insufficient to provide for stable populations for the reasons stated.

Under Alternatives 3 and 4, *D. intricatum* is included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. Because all known sites would receive protection, there is sufficient habitat (including known sites) to provide for stable populations under Alternatives 3 and 4.

***Dendroica intricatum* (California)(changed category)**

Recent information for *D. intricatum* within the California portion of its range includes two detections from the RMS study and the report of 101 new sites on Forest Service managed lands in California. Under Alternative 1, *Dendroica intricatum* would be included in Category E, which requires management of known sites and strategic surveys. Because of the increase in the number of known sites in California, there is sufficient habitat to provide for stable populations under Alternative 1.

Under Alternative 2, *D. intricatum* is removed from Survey and Manage. The species is assumed to be included in the Special Status Species Program on BLM managed lands in California where sites would be managed. Because of the increase in the number of reported sites and because the species appears to be more common than previously known within this portion of its range, under Alternative 2 with or without SSSP, habitat is sufficient to provide for stable populations.

Under Alternatives 3 and 4, *D. intricatum* would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. Under these alternatives, habitat is sufficient to provide for stable populations for the reasons listed under Alternatives 1 and 2.

***Dermatocarpon meiohyllum* (*luridum*)(changed category)**

New information for the aquatic lichen that had been known as *Dermatocarpon luridum* within the NWFP area shows that the species had been misidentified (Glavich and Geiser 2004). Of 12 historic *D. luridum* populations in the NWFP area that were relocated and re-identified, all proved to be *D. meiohyllum*, not *D. luridum*. *Dermatocarpon luridum* does exist in the U.S., but has not yet been found in Oregon, Washington, or California (Glavich pers. observation). *Dermatocarpon meiohyllum* is well known in Western Europe (Heiðmarsson 2001), but it was only recently discovered in North America (Glavich and Geiser 2004). Prior to a recent study of aquatic lichens in the NWFP area, *D. meiohyllum* was known from only nine sites in North America. An additional 22 populations of *D. meiohyllum* have been discovered on Forest Service and BLM lands in all three states of the NWFP (Glavich and Geiser 2004). Populations occurred in the Klamath, Siskiyou, Coast, and Cascade Mountain Ranges.

Because this lichen is aquatic, and although some enhancement projects within Riparian Reserves can disturb habitat for this species (culvert removal, in-stream structure placement), it is assumed that the Aquatic Conservation Strategy would lower the risk of loss of sites (USDA, USDI 2000a:297).

Under Alternative 1, this lichen would be included in Category E, which requires management of known sites and strategic surveys. This species would maintain stable populations and/or distributions (USDA, USDI 2000a:297). Under Alternatives 3 and 4, this species would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. Due to management of known sites, and protection by the Riparian Reserve network, habitat (including known sites) is sufficient to provide for stable populations under Alternative 1, 3 and 4.

Under Alternative 2, this species is assumed to be sensitive on Forest Service managed lands in Oregon and Washington. This species would maintain stable populations and/or distributions under Alternative 2 due to management of known sites, pre-project clearances, and protection by the Riparian Reserve network. Habitat (including known sites) is sufficient to provide for stable populations under Alternative 2. Because pre-project surveys and management of known sites is critical to maintaining stable populations, the scenario of Alternative 2 without SSSP would lead to habitat insufficient to support stable populations in the NWFP area.

***Fuscopannaria (Pannaria) saubinetii* (changed category)**

Fuscopannaria (Pannaria) saubinetii was formerly thought to be a common, widespread species. The taxonomy of North American lichens in the family Pannariaceae has recently been revised, including lichens in the genus *Pannaria* (Jorgensen 2000). Some material formerly called *Pannaria saubinetii* has been moved to the genus *Fuscopannaria* (Jorgensen 2000). *Fuscopannaria saubinetii* is a rare species and only a few correctly identified specimens have been located to date (Jorgensen 2000). Although once believed to be a coastal species, examination of this material may prove otherwise. Until the taxonomic ambiguities can be resolved for *Fuscopannaria (Pannaria) saubinetii*, sites with voucher confirmation in progress continue to be managed as known sites.

Under Alternative 1, this species would be included in Category E, which requires management of known sites and strategic surveys. Although it was thought that this species would maintain stable populations and/or distributions due to species abundance (USDA, USDI 2000a:309), new information indicates this is a rare species. Due to low numbers, habitat (including known sites) is insufficient to provide for stable populations under Alternative 1. This outcome is not due to federal action.

Under Alternatives 2 and 3, this species is assumed not to be included in the Agencies' Special Status Species Programs. Known sites would not be managed. This species would not maintain stable populations and/or distributions under Alternatives 2 and 3 due to low numbers. Habitat (including known sites) is insufficient to provide for stable populations under Alternatives 2 and 3. This outcome is not due to federal action.

Under Alternative 4, *F. saubinettii* would be included in Category F, which requires strategic surveys. Habitat is insufficient to provide for stable populations for reasons listed under Alternatives 1, 2 and 3.

***Hypogymnia duplicata* (changed category)**

Hypogymnia duplicata is endemic to the Pacific Northwest. It occurs from Alaska to northwestern Oregon. There are relatively high numbers of sites on the Mt. Baker-Snoqualmie

National Forest. Concerns for this species have decreased in northern Washington because of the increase in number of known sites, although it is still restricted to specific habitat conditions and considered to be poorly distributed and rare (USDA, USDI 2000a). Most sites known in Washington are in reserves (GeoBOB/ISMS database). Populations known in 2002 were clustered and not well distributed across the landscape (Leshner 2002 pers. comm.), and it was rare in the rest of its range. Recent information includes 8 detections from the RMS Survey and 85 reported sites, most in Washington. Of the 8 RMS Survey detections, 2 were within the Oregon portion of its range, where the species is still considered rare

Under Alternative 1, *Hypogymnia duplicata* would be included in Category C, which requires management of high-priority sites, pre-disturbance surveys, and strategic surveys. This species would maintain stable populations and/or distributions (USDA, USDI 2000a:282). Due to management of high-priority sites, pre-disturbance surveys, and locations in reserves, habitat (including known sites) is sufficient to provide for stable populations under Alternative 1.

Under Alternative 2, *Hypogymnia duplicata* is assumed to be sensitive on Forest Service managed lands in Oregon. There are several known sites on BLM managed lands in Oregon. These sites fall within Areas of Critical Environmental Concern where management activity is limited. This species would maintain stable populations and/or distributions under Alternative 2 due to management of known sites, pre-project clearances, and protection by reserves and Areas of Critical Environmental Concern. Habitat (including known sites) is sufficient to provide for stable populations under Alternative 2. Under Alternative 2 without SSSP on Forest Service managed lands in Oregon, habitat is sufficient to provide for stable populations because it is expected that a large proportion of sites in Oregon as well as Washington will likely occur within reserves where they are afforded some protection.

Under Alternatives 3 and 4, *H. duplicata* would be included in Category A, which requires management of all known sites and pre-disturbance surveys. Under Alternative 3, pre-disturbance surveys are limited to late-successional and old-growth habitat. Because all known sites would receive protection and pre-disturbance surveys conducted, habitat (including known sites) is sufficient to provide for stable populations under Alternatives 3 and 4.

***Hypogymnia oceanica* (new to this analysis)**

Information from the 2001 Annual Species Review indicates that this species is well distributed and more common than previously known (USDA, USDI Species Review Panel 2001). Of the 472 known sites at that time, 272 sites were newly reported since the 2000 species review. The species was also reported to have 17 detections from the RMS study. Since the 2001 ASR, seven additional sites have been reported.

Under Alternatives 1, 2, and 3 *H. oceanica* is removed from Survey and Manage and not assumed to be on SSSP. Because current information indicates that this species is relatively common and is well distributed, habitat is sufficient to provide for stable populations.

Under Alternative 4, *H. oceanica* would be included in Category F, which requires strategic surveys. Under this alternative, habitat is sufficient to provide for stable populations for reasons listed under Alternatives 1, 2, and 3.

***Leptogium burnetiae* var. *hirsutum* (changed category)**

For *Leptogium burnetiae* var. *hirsutum*, pre-disturbance surveys have yielded vouchers that are taxonomically indistinct, based on current keys and species descriptions. This species is known from few sites on federally managed land (USDA, USDI 2000a:283).

Under Alternative 1, *Leptogium burnetiae* var. *hirsutum* would be included in Category E, which requires management of known sites and strategic surveys. There is insufficient

information about this species to determine how distribution and stability would be affected (USDA, USDI 2000a:305). There is insufficient information to determine an outcome under Alternative 1.

Under Alternative 2, *Leptogium burnetiae* var. *hirsutum* is assumed to be included as sensitive for the Forest Service in Washington and Oregon. Known sites would be managed and pre-project clearances would be conducted. General inventories may be conducted. There is insufficient information about this species to determine how the alternative would affect distribution and stability. There is insufficient information to determine an outcome under Alternative 2. Under Alternative 2 without SSSP on Forest Service managed lands in Washington and Oregon, the outcome is also insufficient information to determine an outcome for the reasons already stated.

Under Alternatives 3 and 4, *L. burnetiae* var. *hirsutum* would be included in Category A, which requires management of all known sites and pre-disturbance surveys. Under Alternative 3, pre-disturbance surveys are limited to late-successional and old-growth habitat. There is insufficient information to determine an outcome under Alternatives 3 and 4 for the reasons listed under Alternative 1.

***Leptogium rivale* (changed category)**

New populations of *Leptogium rivale* continue to be found on Forest Service and BLM lands, mostly in Oregon, but also in California and Washington from the Siskiyou, Coast, and Cascade Mountain Ranges.

Leptogium rivale occurs in all three states. It is an aquatic lichen that was thought to be endemic to North America until its recent discovery in Poland, the Czech Republic (Guttová 2000), and Portugal (van den Boom 2002). New research suggests this species is more common than once thought (with 26% frequency on aquatic lichen study plots across the NWFP area), occurring in many watersheds in several National Forests and BLM lands, and that it is more associated with LSOG forest stands (Glavich 2006, Glavich and Geiser 2007). Although Glavich (2006) found that *L. rivale* was neither more nor less likely to be associated with Congressional and Late-Successional Reserves, the aquatic habitat of this species would likely be protected in Riparian Reserves. Most known sites are on federally managed lands within Riparian Reserves (USDA, USDI 2000a:296). Although some enhancement projects within Riparian Reserves can disturb habitat for this species (culvert removal, in-stream structure placement), the Riparian Reserves and other elements of the Aquatic Conservation Strategy (USDA, USDI 1994b:B-9 through B-34) would lower the risk of loss of sites (USDA, USDI 2000a:297).

Under Alternative 1, *Leptogium rivale* would be included in Category E, which requires management of known sites and strategic surveys. Under Alternatives 3 and 4, this species would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. This species would maintain stable populations and/or distributions (USDA, USDI 2000a:297). Due to protection by Riparian Reserves, habitat (including known sites) is sufficient to provide for stable populations under Alternatives 1, 3 and 4.

Under Alternative 2, *Leptogium rivale* is assumed not to be included in the Agencies' Special Status Species Programs. This species would maintain stable populations and/or distributions under Alternative 2 due to protection by Riparian Reserves. Habitat (including known sites) is sufficient to provide for stable populations under Alternative 2.

***Lobaria linita* (WA Western Cascades north of Snoqualmie Pass, and WA Olympic Peninsula Provinces)(new to this analysis)**

Information from the 2002 Annual Species Review indicates that this species is more common than previously known in this portion of the range, and that a high proportion of known sites are within reserves (USDA, USDI Species Review Panel 2002). Of the 119 known sites reported, 102 were within reserves. In addition, 12 of 14 RMS detections for the species occur within this portion of its range. Since the 2002 ASR, 28 additional sites have been reported.

Under Alternatives 1 and 2, *Lobaria linita* is removed from Survey and Manage and assumed to be included as Bureau Assessment on BLM managed lands in Washington. Because the species is well distributed and a large proportion of known sites are within reserves where they are protected, habitat is sufficient to provide for stable populations. Because there are currently no known *L. linita* sites on BLM lands in Washington, the outcome for Alternatives 1 and 2 without SSSP is the same.

Under Alternatives 3 and 4, *L. linita* would be included in Category A, which requires management of all known sites and pre-disturbance surveys. Under Alternative 3, these surveys are limited to late-successional and old-growth habitat. Habitat is sufficient to provide for stable populations under Alternatives 3 and 4 for the reasons listed under Alternatives 1 and 2.

***Nephroma bellum* (OR Western Cascades, OR Coast Range, and WA Western Cascades in Gifford Pinchot NF) (new to this analysis)**

Information from the 2001 Annual Species Review indicates that this species was more common than previously known, with a total of 173 sites within this portion of the range, including 15 detections from the RMS survey (USDA, USDI Species Review Panel 2001). Since the 2001 ASR, 11 additional sites have been reported and the total number of RMS detections has increased to 18.

Under Alternatives 1, 2, and 3, *N. bellum* is removed from Survey and Manage in this portion of its range. It is assumed to be included in the Agencies' Special Status Species Program for the Forest Service in Washington where known sites will be managed and pre-project clearances would be conducted. Because current information indicates that this species is relatively common, and a large proportion of sites are expected to occur within reserves, habitat is sufficient to provide for stable populations with or without SSSP.

Under Alternative 4, *N. bellum* is included in Category F, which requires strategic surveys. Under this alternative, habitat is sufficient to provide for stable populations because the species is relatively common and a large proportion of sites are expected to occur within reserves.

***Nephroma bellum* (OR Klamath, OR Willamette Valley, OR Eastern Cascades, WA Western Cascades (outside of Gifford Pinchot NF), WA Eastern Cascades, and WA Olympic Peninsula)(changed category)**

Nephroma bellum has a broad, global distribution and is well distributed west of the Cascade crest (USDA, USDI Species Review Panel 1999). Current information indicates that it may be common in the NWFP area, although it is rare within this portion of its range. Recent information for *Nephroma bellum* includes six detections from the RMS Survey within this portion of its range and an increase in known sites for a total of 33 on federal lands. Of this total, 66 percent are located within reserves. One site has been reported but has not been verified for California; this site does not occur on federally managed lands.

Under Alternatives 1, *Nephroma bellum* would be included in Category E, which requires management of known sites and strategic surveys. This species would maintain stable populations and/or distributions (USDA, USDI 2000a:309). Due to management of known

sites, protection by reserves, and species abundance in some NWFP areas, habitat (including known sites) is sufficient to provide for stable populations under Alternative 1.

Under Alternatives 2 and 3, *Nephroma bellum* is removed from Survey and Manage. It is assumed to be included in the Agencies' Special Status Species Program for the Forest Service in Washington. Habitat is sufficient to support stable populations under Alternatives 2 and 3 because known sites on Forest Service managed lands in Washington would be protected and pre-project clearances will be conducted. In Oregon, where the species would not have SSSP status, a large proportion of sites are likely to occur within reserves where they are afforded some protection. Habitat (including known sites) is sufficient to provide for stable populations under Alternatives 2 and 3.

Alternatives 2 and 3 without SSSP on Forest Service managed lands in Washington will have sufficient habitat to provide for stable populations, however because this species is still considered to be rare in the Olympic Peninsula Province in Washington, Alternatives 2 and 3 without SSSP would result in insufficient habitat to support stable populations in this portion of the range.

Under Alternative 4, *N. bellum* would be included in Category F, which requires strategic surveys. It is also assumed to be included in the Agencies' Special Status Species Program for the Forest Service in Washington where sites would be managed and pre-project clearances conducted. Habitat is sufficient to provide for stable populations. Under Alternative 4 without SSSP on Forest Service managed lands in Washington, known sites would not be managed and surveys would not be conducted. Habitat would be sufficient to provide for stable populations range-wide, but is insufficient to provide for stable populations in that portion of the range.

***Nephroma occultum* (changed category)**

Nephroma occultum is endemic to western North American, occurring from British Columbia to southern Oregon (USDA, USDI 2000a). Almost all known sites are on federally managed land and about 30 percent occur in reserves (USDA, USDI Species Review Panel 2000). It occurs on large, old lateral limbs of conifers (USDA, USDI 2000a:293). Although there are a moderate number of known sites, persistence concerns are based on the species' dispersal limitations, the low number of individuals at known sites, and the patchy distribution in the NWFP area. *Nephroma occultum* is known to be dispersal limited (Rosso et al. 2000, Sillett et al. 2000, and Sillett and Goward 1998), is closely associated with very old, old-growth habitat (Sillett and Goward 1998), and is not well distributed across the landscape (it occurs in isolated patches). The species has three detections from the RMS Survey. The range of expected detections at the 95 percent confidence interval (0 – 681,400 expected detections) does not provide new information on the rarity of this species. Recent site detections have pushed the number of known federal sites over 200.

Under Alternative 1, *Nephroma occultum* would be included in Category C, which requires management of high-priority sites, pre-disturbance surveys, and strategic surveys. Because known sites would be managed and pre-disturbance surveys would be completed, habitat (including known sites) is sufficient to provide for stable populations under Alternative 1.

Under Alternative 2, *Nephroma occultum* is assumed to be included as sensitive for the Forest Service in Washington and Oregon. There is a high risk of loss of sites outside of reserves on BLM managed lands in Oregon. Although some legacy components are retained based on Matrix Standards and Guidelines, these standards and guidelines may not be sufficient because not all habitat components are included. For example, some suppressed understory conifers can be very old, and are known to be a source for propagules of *Nephroma occultum* and other old-growth lichens. In many cases, these suppressed understory trees are not protected because they do not appear to be old-growth components (USDA, USDI 2003c). The removal of these components greatly reduces the likelihood that refugial populations of

Nephroma occultum will remain across the landscape. The single most important action promoting the accumulation of old-growth associated epiphytic lichens is the retention of propagule sources, and maintaining an adequate local source of propagules is critical to the resilience of dispersal limited species in a managed forested landscape (Sillett et al. 2000). Most of the known global sites occur in Oregon where the species reaches the southern extent of its range. A combination of factors, including the potential loss of inoculum sources in younger stands across its entire range in the NWFP area and the lack of protection of non-reserve sites on BLM managed lands in Oregon results in habitat (including known sites) insufficient to support stable populations in the NWFP area under Alternatives 2. Alternative 2 without SSSP on Forest Service managed lands in Oregon and Washington could lead to the loss of some sites. This, in combination with the factors already stated, also results in an outcome of insufficient habitat to support stable populations.

Under Alternatives 3 and 4 *N. occultum* would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. Under these alternatives, habitat is sufficient to provide for stable populations for the reasons listed under Alternatives 1.

***Platismatia lacunosa* (Oregon Coast Range) (new to this analysis)**

Information from the 2002 Annual Species Review indicates that this species is more common within this portion of its range than previously known (USDA, USDI Species Review Panel 2002). It was reported that 19 of 21 RMS detections occurred within the Oregon Coast Range Province, inferring that the species was relatively common there. New information since the 2002 ASR includes 39 new sites reported and a correction to 18 RMS detections.

Under Alternatives 1, 2, and 3, *P. lacunosa* is removed from Survey and Manage within this portion of its range and is not included in SSSP in Oregon. Because current information indicates that this species is relatively common and is well distributed within the physiographic province, habitat is sufficient to provide for stable populations.

Under Alternative 4, *P. lacunosa* would be included in Category C, which requires management of high-priority sites, pre-disturbance surveys, and strategic surveys. Under this alternative, habitat (including known sites) is sufficient to provide for stable populations for reasons listed under Alternatives 1, 2, and 3.

***Platismatia lacunosa* (Except Oregon Coast Range)(category change)**

Platismatia lacunosa occurs in Washington and Oregon. It is common in the Oregon Coast Range and rare in the rest of its range. A high proportion of known sites, most of which are in the Oregon Coast Range, are protected by reserves (GeoBOB/ISMS database). It is sometimes, but not necessarily, associated with riparian areas where it often grows on alders. This species occurs primarily at lower elevations and it is unknown at this time how much potential habitat exists on federally managed lands (USDA, USDI 2000a:299). Although riparian enhancement projects that remove hardwoods within Riparian Reserves can disturb habitat for this species, the Riparian Reserve Standards and Guidelines and other elements of the Aquatic Conservation Strategy lower the risk of loss of sites. Late-Successional and other reserves may also provide some protection of known sites (USDA, USDI 2000a:299). Known site numbers have nearly doubled to over 50 in recent years. There are 3 detections from the RMS surveys.

Under Alternatives 1, *P. lacunosa* would be included in Category E, which requires management of known sites and strategic surveys. This species would maintain stable populations and/or distributions (USDA, USDI 2000a:299). Due to management of known sites, habitat (including known sites) is sufficient to provide for stable populations under Alternative 1.

Under Alternatives 2 and 3, *P. lacunosa* is removed from Survey and Manage. It is assumed to be included as sensitive on Forest Service managed lands in Washington. Due to management of known sites and pre-project clearances under the Forest Service Sensitive Species Program in Washington, this species would maintain stable populations and/or distributions under Alternative 2 and 3 in Washington. There are fewer than 20 Oregon sites within this portion of the range, occurring in the Oregon Klamath, Western Oregon Cascades, and Willamette Valley Provinces. Because the species is rare and not well distributed within these physiographic provinces, habitat is insufficient to provide for stable populations under Alternatives 2 and 3 for the Oregon portion of the range. Therefore habitat (including known sites) is sufficient to support stable populations, but insufficient to support stable populations in a portion of its range. Under Alternatives 2 and 3 without SSSP on Forest Service managed lands in Washington, habitat is also insufficient to provide for stable populations within this portion of the range for the reasons listed and because Washington sites would no longer receive management.

Under Alternative 4, *P. lacunosa* would be included in Category C, which includes management of high-priority sites and pre-disturbance surveys. Under this alternative, habitat (including known sites) is sufficient to provide for stable populations because of known site management and pre-disturbance surveys.

***Pseudocyphellaria perpetua* (changed category)**

New research indicates that the NWFP population locus for *Pseudocyphellaria perpetua* is on the west side of the central Oregon Coast Range, and that it is rare elsewhere. It has also been found in the Olympics in Washington and the western foothills of the Oregon Cascades (Glavich et al. 2005a). Low detection rates prevent analysis of old-growth and land use allocation association, but it has been found in forest stands of 25 to 114 years-old with a median of 80 years, and 7 of 20 populations on federal land are in reserves (Glavich et al. 2005a,b). *Pseudocyphellaria perpetua* is the new name for this species (Miadlikowska et al. 2002). FEMAT (USDA et al. 1993) and the Northwest Forest Plan Final SEIS (USDA, USDI 1994a) erroneously applied the name *Pseudocyphellaria mougeotiana*. Because of the erroneous name, the Survey and Manage Final SEIS (USDA, USDI 2000a) and Lichen Management Recommendations (USDA, USDI 2000c) identified this entity as *Pseudocyphellaria* sp. 1 while acknowledging taxonomic work was underway. The taxonomic uncertainty was resolved when the new name was published in 2002. In the 2000 Survey and Manage FEIS (p. 293) there was insufficient information about this taxonomic entity to determine effects. Since that time, there is sufficient new information to clarify the taxonomic uncertainty, habitat association, and rarity within the NWFP area (Miadlikowska et al. 2002).

Under Alternative 1, *Pseudocyphellaria perpetua* would be included in Category A, which requires management of known sites, pre-disturbance surveys, and strategic surveys. Under Alternatives 3 and 4, this species would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. Due to its rarity and narrow ecological amplitude, habitat (including known sites) is insufficient to support stable populations in the NWFP area under Alternatives 1, 3, and 4. This outcome is not due to federal action.

Under Alternative 2, *Pseudocyphellaria perpetua* is assumed not to be included in the Agencies' Special Status Species Programs. Known populations on Forest Service and BLM managed lands in Oregon have increased from 7 to 20 (Glavich et al. 2005a). Although 7 of the populations on federally managed lands are in reserves, their occurrence in stands under 80 years old would be at risk of being impacted by thinning. This and the remaining populations being in non-reserve land allocations, places populations at risk under Alternative 2 because known sites would no longer be managed. General inventories would not be required. Although there have been additional populations discovered recently, *P. perpetua* is still considered to be rare. Due to its rarity and narrow ecological amplitude, habitat (including

known sites) is insufficient to provide for stable populations under Alternative 2. This outcome is not a result of federal action.

***Pyrrhospora quernea* (new to this analysis)**

The 2000 FSEIS indicated that the coastal lichen *Pyrrhospora quernea* was known only from 11 sites in the NWFP area and that old-growth forest association was uncertain. A recent study has found this species at a frequency of 21% of the 129 randomly selected sites along the NWFP area coastline, with most sites occurring in Oregon. The Washington populations are mostly limited to state lands in the Puget Sound area (Glavich et al. 2005a). For the sites on federal land, this species was found significantly associated with reserve land allocations (Glavich et al. 2005a). This species was not found to be associated with stand age, and though it can occur in other coastal habitats, its primary habitat has been defined by Sitka spruce and shore pine-dominated, coastal dune forests in a climate of moderate rainfall (100 to 150 days per year) (Glavich et al. 2005a, b).

Under Alternatives 1 and 2, this species is removed from Survey and Manage and assumed to be in the Agencies' Special Status Species Programs for Forest Service in Oregon and Washington. The majority of its populations occur in the dune forest region of Siuslaw National Forest in Oregon; therefore, under Alternative 2, it is assumed that the Forest Service SSSP would manage these *P. quernea* populations. However, due to its narrow ecological amplitude, habitat (including known sites) is insufficient to support stable populations in the NWFP area under Alternatives 1 and 2 with or without SSSP. This outcome is not due to federal action.

Under Alternatives 3 and 4, this species would be included in Category E, which requires management of known sites and strategic surveys. For the reasons listed for Alternatives 1 and 2, habitat (including known sites) is insufficient to provide for stable populations for this species under Alternatives 3 and 4. This outcome is not due to federal action.

***Ramalina pollinaria* (new to this analysis)**

The 2000 FSEIS indicated that the coastal lichen *Ramalina pollinaria* was known only from 9 sites in the NWFP area and that old-growth forest association was uncertain. The Coastal Lichen Study has found this species at a frequency of 9% of the 129 randomly selected sites along the NWFP area coastline, with most sites occurring in California (Glavich et al. 2005a). Most of these sites are in State Parks, and the five sites on federal land in the study occurred in non-reserve land allocations. This species was not found to be associated with stand age, and the habitat was primarily defined by low elevation (< 116 meters) coastal forests with moderate rainfall (100 to 150 days per year) (Glavich et al. 2005a, b).

Under Alternatives 1 and 2, this species is removed from Survey and Manage and is assumed to be in the Agencies' Special Status Species Programs as Bureau Sensitive on BLM managed lands of the three states, and sensitive on Region 6 Forest Service lands. Due to its narrow ecological amplitude, limited distribution, and few sites on federal land, habitat (including known sites) is insufficient to support stable populations in the NWFP area under Alternatives 1 and 2, with or without SSSP. This outcome is not due to federal action.

Under Alternatives 3 and 4, this species would be included in Category E, which requires management of known sites and strategic surveys. For the reasons listed for Alternatives 1 and 2, habitat (including known sites) is insufficient to provide for stable populations for this species under Alternatives 3 and 4. This outcome is not due to federal action.

***Ramalina thrausta* (New to Analysis)**

Information from the 2003 Annual Species Review found that 295 new sites for *R. thrausta* had been reported since the previous ASR in 2002, including 15 detections from the RMS, bringing the total number of sites known at that time to 327, one-third of which were in reserves (USDI,

USDA Species Review Panel 2003). The indication was that this species is more common than previously known and is likely well represented within reserves. Since the 2003 ASR, 391 new federal sites have been reported.

Under Alternatives 1 and 2, *R. thrausta* is removed from Survey and Manage and assumed not to be on the Agencies' Special Status Species Programs. Because current information indicates that this species is relatively common and some portion of sites are likely to be represented within reserves where they are afforded some protection, habitat (including known sites) is sufficient to provide for stable populations across the NWFP area.

Under Alternatives 3 and 4, *C. norvegica* would be included in Category A, which requires management of all sites, pre-disturbance surveys, and strategic surveys. Under Alternative 3, pre-disturbance surveys would be restricted to late-successional and old-growth habitat. Under these alternatives habitat is sufficient to provide for stable populations for the reasons listed under Alternatives 1 and 2.

***Usnea hesperina* (changed category)**

Usnea hesperina is rare in the NWFP area, with low number of known sites, low numbers of individuals, limited distribution, and narrow ecological amplitude. New research confirms *U. hesperina* to be rare (found at 5% of 129 randomly selected sites) across the coastline of the NWFP area; it was primarily found in Oregon and Washington, but was most common in Washington (Glavich et al. 2005a). This species was not found to be more or less associated with Congressional and Late-Successional Reserves, but there was suggestive evidence that it is associated with late-seral forests. The habitat for *U. hesperina* has recently been defined by wet (> 150 days of rain) western hemlock forest in the coastal fog belt (Glavich et al. 2005b).

Under Alternative 1, *Usnea hesperina* would be included in Category E, which requires management of known sites and strategic surveys. Under Alternatives 3 and 4, this species would be included in Category B, which requires management of known sites, equivalent-effort surveys until strategic surveys are completed, and strategic surveys. This species would not maintain stable populations and/or distributions (USDA, USDI 2000a:293). Due to low number of individuals, limited distribution, and narrow ecological amplitude, habitat (including known sites) is insufficient to provide for stable populations under Alternative 1, 3 and 4. This outcome is not due to federal action.

Under Alternative 2, *Usnea hesperina* is assumed not to be included in the Agencies' Special Status Species Programs. Known sites would not be managed and general inventories are not required. This species would not maintain stable populations and/or distributions under Alternative 2 due to low number of individuals, limited distribution, and narrow ecological amplitudes. Habitat (including known sites) is insufficient to provide for stable populations under Alternative 2. This outcome is not due to federal action.

Vascular Plants

***Corydalis aquae-gelidae* (changed category)**

This species is restricted to the western Cascades of Skamania and Clark Counties in Washington, and Clackamas, Lane, Linn, Marion, and Multnomah Counties in Oregon. Almost all known occurrences are on National Forest System lands and within riparian reserves. New information for *Corydalis aquae-gelidae* includes an updated Conservation Assessment (USDA, USDI 2005c), further characterization of habitat requirements for the species (McShane 2003), a monitoring plan for a hydroelectric project area (PGE 2006), and the location of 26 new sites. Because a high percentage of the newly reported sites occur within proximity to areas that were known to have *C. aquae-gelidae* populations (Scott 2006 pers. comm., Ruchty 2006 pers. comm.), the new sites are considered to be part of existing populations. An investigation to further define the habitat requirements of this species

determined that *C. aquae-gelidae* in the Clackamas River drainage in Oregon occurs on stream reaches that have a mean gradient of 3-4 percent, and are downstream of structures or land features that either moderated flows or diverted flows away from plants (McShane 2003). Recognition of these narrow habitat requirements may help to explain why the species has a patchy distribution pattern.

Under Alternative 1, this species would be included in Category A, which requires management of known sites, pre-disturbance surveys, and strategic surveys. Due to management of known sites and pre-disturbance surveys, Alternative 1 would provide sufficient habitat to allow this species to stabilize in a pattern similar to its reference distribution (USDA, USDI 2000a:318). Habitat (including known sites) is sufficient to provide for stable populations of this species under Alternative 1.

Under Alternatives 2 and 3, *C. aquae-gelidae* is removed from Survey and Manage. It is assumed to be included in the Special Status Species Programs for the Forest Service and BLM in Oregon and Washington. Known sites would be managed and pre-project clearances would be completed. Habitat (including known sites) is sufficient to provide for stable populations of this species under Alternative 2. Because the largest concentrations of *C. aquae-gelidae* in Oregon occur within river reaches used by two hydroelectric projects, they are potentially vulnerable to inundation and dewatering. Fish habitat improvement and thinning projects also have the potential to adversely impact sites throughout the species' range. For these reasons, Alternative 2 without SSSP on BLM and Forest Service managed lands in Oregon and Washington would result in habitat insufficient to support stable populations.

Under Alternative 4, *C. aquae-gelidae* would be in Category C, which requires the management of high priority sites and pre-disturbance surveys. Habitat is sufficient to support stable populations for the reasons listed under Alternative 1.

***Cypridium fasciculatum* (Washington Eastern Cascades)(new to this analysis)**

Information from the 2002 Annual Species Review indicates that *C. fasciculatum* is not closely associated with late-successional and old-growth habitat within this portion of its range. It was also acknowledged that concerns for the species' persistence exist for the 147 then-known sites because of the low to moderate number of individuals at most sites, poor distribution, and a low number of sites within reserves (USDA, USDI Species Review Panel 2002). Since the 2002 ASR, new information includes 33 additional sites reported.

Under Alternatives 1, 2, and 3, *C. fasciculatum* is removed from Survey and Manage. It is assumed to be a Forest Service sensitive species on Forest Service managed lands and a Bureau Assessment species on BLM managed lands. Known sites would be managed and pre-project clearances would be conducted. Because of site management and pre-project clearances, habitat is sufficient to provide for stable populations under Alternatives 1, 2, and 3. Under Alternatives 1, 2, and 3 without SSSP on Forest Service and BLM managed lands, habitat is insufficient to provide for stable populations because only 14 percent of sites are within reserves, sites are not well distributed, and there tends to be a low number of individuals per known site.

Under Alternative 4, *C. fasciculatum* would be included in Category C, which requires management of high-priority sites and pre-disturbance surveys. Under this alternative, habitat is sufficient to provide for stable populations because of known site management and pre-disturbance surveys.

***Cypridium montanum* (Washington Eastern Cascades)(new to this analysis)**

Information from the 2001 Annual Species Review indicates that *C. montanum* is not closely associated with late-successional and old-growth habitat within this portion of its range. At

that time, the species was known from 274 sites (USDA, USDI Species Review Panel 2001). Since the 2001 ASR, 21 additional sites have been reported.

Under Alternatives 1, 2, and 3, *C. montanum* is removed from Survey and Manage. It is not assumed to be in a SSSP for the BLM or Forest Service and known sites would not be managed. Populations of *C. montanum* tend to be small and scattered, which makes them vulnerable to extirpation (USDA, USDI 1998). The loss of small, isolated populations due to activities such as timber harvest, road and trail construction, soil and litter disturbance, and a decrease of canopy closure to less than 60 percent have been identified as threats to the species (USDA, USDI 1994a; USDA, USDI 1998). Because 88 percent of known sites within this portion of the range occur within the Matrix (GeoBOB/ISMS) where management activities may result in the loss of sites, habitat is insufficient to provide for stable populations under Alternatives 1, 2, and 3. Possible mitigation includes management of high-priority sites and pre-disturbance surveys in likely habitat.

Under Alternative 4, *C. montanum* would be included in Category C, which requires management of high-priority sites and pre-disturbance surveys. Under this alternative, habitat is sufficient to provide for stable populations because of known site management and pre-disturbance surveys.

Mollusks

Ancotrema voyanum (new to this analysis)

Information from the 2003 Annual Species Review (ASR) indicates that the terrestrial snail *Ancotrema voyanum* is common. There are several hundred known sites and numerous detections from strategic surveys. The ASR also found that the proportion of potential habitat within reserves is high (62%) and there is a high probability that the potential habitat (48%) is occupied by *Ancotrema voyanum* (USDA, USDI Species Review Panel 2003). Since the 2003 ASR, the number of known sites has continued to increase. The species was not included in all pre-disturbance surveys, so it is possible that the actual abundance has been underestimated. New information provides more clarity of this species habitat association, suggesting it is more frequently associated with late-successional forests and sites within close proximity to streams (Dunk et al. 2004).

Under Alternatives 1 and 2, *Ancotrema voyanum* is removed from Survey and Manage and not assumed to be on SSSP. Under Alternatives 3 and 4, this species would be included in Category E, which requires management of all known sites and strategic surveys. This species also requires equivalent-effort surveys “for as long as [it] remains in Categories B or E” (see Chapter 2). Because of the high number of known sites, and apparent habitat in reserves, association with Riparian Reserves, and its wide ecological amplitude, habitat (including known sites) is sufficient to provide for stable populations across the NWFP area under all alternatives.

Fluminicola n. sp 1 (new to this analysis)

Information from the 2001 ASR indicates that the aquatic snail *Fluminicola* n. sp 1 is not closely associated with late-successional or old-growth forests, as the majority of known sites are not near forests. Of the 27 known sites, 25 are in or around Upper Klamath Lake; the remaining are within the California Cascades. All known sites occur on rocky bottoms of lakes and streams with some water flow as from spring influx (USDA, USDI Species Review Panel 2001). Since the 2001 ASR, detections include two sites in non-reserve and three sites outside of Forest Service or BLM lands.

Under Alternatives 1 and 2, *Fluminicola* n. sp 1 is removed from Survey and Manage and assumed to be on SSSP for BLM in Oregon and Washington and the Forest Service in Oregon. Under Alternatives 3 and 4, this species would be included in Category A, which requires

management of all known sites, pre-disturbance surveys, and strategic surveys. Habitat for this species is not associated with forestlands, suggesting a very low risk of harm from timber harvest or other management activities. Because of site protection by Riparian Reserves and other elements of the Aquatic Conservation Strategy, habitat (including known sites) is sufficient to provide for stable populations for this species under all alternatives with or without SSSP.

Fluminicola n. sp 2 (new to this analysis)

Information from the 2001 ASR indicates that the aquatic snail *Fluminicola n. sp 2* is not closely associated with late-successional or old-growth forest (USDA, USDI Species Review Panel 2001). It is known from only one aquatic site in Oregon (not on Forest Service or BLM lands). The 2000 Final SEIS outcome for Alternative 1 was “sufficient habitat.” Other suitable habitats within the vicinity have been thoroughly surveyed with no additional detections. Efforts were made to find additional sites and no new information has come about since 2000.

Under Alternatives 1 and 2, *Fluminicola n. sp 2* is removed from Survey and Manage and assumed to be on SSSP for Forest Service in Oregon. Under Alternatives 3 and 4, this species would be included in Category A, which requires management of all known sites, pre-disturbance surveys, and strategic surveys. If new sites were discovered on Forest Service or BLM lands the species would be offered protection by Riparian Reserves and other elements the Aquatic Conservation Strategy. Therefore, habitat (including known sites) is sufficient to provide for stable populations under all alternatives with or without SSSP.

Helminthoglypta hertleini (new to this analysis)

Information from the 2002 ASR indicates that the terrestrial snail *Helminthoglypta hertleini* is not closely associated with late-successional or old-growth forest. The majority of known sites are in non-reserve stands less than 80 years old. The most common habitat features reported are talus, rock, cobble, and rock outcrops, while only one site record lists habitat as down woody debris (USDA, USDI Species Review Panel 2002). Since the 2002 Annual Species Review, there are nearly 100 new Oregon sites, mostly on BLM lands outside of reserves. Revision and refinement of the taxonomy of the land snail clade *Helminthoglypta* Ancey, 1887, is ongoing (Roth et al. 2004). In California, identification of exterior features caused confusion and incorrect identification of this species with *Helminthoglypta cypreophila*. DNA sequencing has clarified this matter. However, known sites and the rate of detection may be an underestimate of abundance. Within California, corrected records for this species indicate it range includes four counties (Shasta, Tehama, Siskiyou, and Humboldt) which suggests that it is well distributed.

Under Alternatives 1 and 2, *Helminthoglypta hertleini* would be removed from Survey and Manage and assumed to be on SSSP for BLM in California, Oregon, and Washington, and Forest Service in Oregon. Under Alternatives 3 and 4, this species would be included in Category B, which requires management of known sites, equivalent-effort surveys, and strategic surveys. For this species, equivalent-effort surveys apply “for as long as it remains in Category E or B” – see Chapter 2. Based on the high number of known sites and rate of detection, wide ecological amplitude, elements of habitat management by Matrix Standard and Guides, and possible association to fire prone environments, habitat (including known sites) is sufficient to provide for stable populations for this species under all alternatives with or without SSSP.

Helminthoglypta talmadgei (changed category)

This terrestrial snail is known from over 1000 sites scattered widely across its California-limited range. There is evidence of genetically and ecologically distinct populations within this species (Roth 2002), each of which occupy relatively small ranges. Revision and refinement of the taxonomy of the land snail clade *Helminthoglypta* Ancey, 1887, is ongoing

(Roth et al. 2004). This species has been reported to depend to some extent on woody debris of various decay classes (USDA, USDI 2003b). In the drier regions of California and southern Oregon where this species is found, canopy and understory reduction may alter the necessary microclimate conditions that allow populations to persist (USDA, USDI 2000d). In addition, prescribed burning usually takes place in the spring or fall, when these species are more likely to be active on the surface, compared to late summer wildfires to which these species are adapted, when individuals are typically aestivating (similar to hibernating) (USDA, USDI 2003b). However, Agee (2001) evaluated the association of mollusk to evidence of fire and *Helminthoglypta talmadgei* was found more frequently on more recently burned plots. Dunk et al. (2004) found *Helminthoglypta talmadgei* detected in areas with less conifer canopy cover and basal area, more grass cover, younger trees, and on drier aspects that previously reported, and found evidence that species habitat is not limited to late-successional forests, but is also closely associated with early seral forests (particularly *Quercus* hardwood forests).

Under Alternative 1, *Helminthoglypta talmadgei* is included in Category D, which requires management of high-priority sites and strategic surveys. Under Alternative 1, *Helminthoglypta talmadgei* is expected to have habitat sufficient to “stabilize in a pattern altered from reference distribution with some limitations on biological functions and species interactions” with moderate uncertainty (USDA, USDI 2000a, p. 191). Under Alternative 1, habitat (including known sites) is sufficient to support stable populations in the Northwest Forest Plan area.

Under Alternative 2, *Helminthoglypta talmadgei* is removed from Survey and Manage and assumed to be on SSSP on BLM lands in California, although almost none of the known sites are on BLM lands. Because of increasing numbers of sites and recent evidence of wide ecological amplitude, habitat (including known sites) is sufficient to support stable populations in the NWFP area with or without SSSP.

Under Alternatives 3 and 4, this species would be included in Category A, which requires management of all known sites, pre-disturbance surveys, and strategic surveys. Because, of the high number of known sites, rate of detection and wide ecological amplitude, habitat (including known sites) is sufficient to support stable populations across the NWFP area.

***Hemphillia burringtoni* (changed category)**

This species is known from a low to moderate numbers of sites spread across its range. The majority of known sites are not on BLM or Forest Service land, and those sites that are occur exclusively within reserves.

Under Alternative 1, *Hemphillia burringtoni* is included in Category E, which requires management of known sites and strategic surveys. Under Alternative 1, *Hemphillia burringtoni* was predicted to have habitat sufficient to “stabilize in a pattern altered from reference distribution with some limitations on biological functions and species interactions” with moderate uncertainty (USDA, USDI 2000a, pp. 173 and 191). Based on the protection of reserves, habitat (including known sites) is sufficient to support stable populations in the NWFP area.

Under Alternative 2, *Hemphillia burringtoni* is assumed to be on SSSP on the Forest Service in Washington, which includes most or all of its range. However, because of the protection of reserves, habitat (including known sites) is sufficient to support stable populations in the Northwest Forest Plan area with or without SSSP.

Under Alternatives 3 and 4, this species is included in Category A, which requires management of known sites, pre-disturbance surveys, and strategic surveys. Under Alternative 3, removal of the pre-disturbance survey requirement in non-late-successional and non-old-growth forest stands could result in loss of some sites. This could result in some minor loss of population connectivity and interaction. However, based on protection afforded

by the reserve network, habitat (including known sites) is sufficient to support stable populations in the Northwest Forest Plan area under Alternatives 3 and 4.

***Hemphillia glandulosa* (WA Olympic Peninsula and OR Coast Range) (new to this analysis)**

Information from the 2001 ASR indicates that the terrestrial slug, *Hemphillia glandulosa* (WA Olympic Peninsula and OR Coast Range) is not closely associated with late-successional or old-growth forest and is more common than once thought (USDA, USDI Species Review Panel 2001). Since the 2001 Annual Species Review, its rate of detection has increased; resulting in over a thousand known sites distributed between both reserve and non-reserve lands. The rate of detection is high and is supported by eight RMS detections. Much of Olympic National Forest is Late-Successional Reserve or Riparian Reserve, and the federal lands in the Oregon Coast Range are heavily reserved as well.

Under Alternatives 1, 2, and 3 *Hemphillia glandulosa* would be removed from Survey and Manage in the WA Olympic Peninsula and OR Coast Range provinces and assumed to be on SSSP for Forest Service in Washington. Under Alternative 4, *Hemphillia glandulosa* would be included in Category C, which requires management of high-priority sites, pre-disturbance surveys, and strategic surveys. Based on a high number of known sites, high rate of detection, and protection in reserves, habitat (including known sites) is sufficient to support stable populations under all alternatives with or without SSSP.

***Hemphillia glandulosa* (WA Western Cascades)(changed category)**

This species is known from a moderate number of sites spread across a broad range. Populations are adjacent to, and assumed to be in, reserve networks, which offer protection.

Under Alternative 1, *Hemphillia glandulosa* is included in Category E, which requires management of known sites and strategic surveys. Under Alternative 1, *Hemphillia glandulosa* was predicted to have habitat sufficient to “stabilize in a pattern altered from reference distribution with some limitations on biological functions and species interactions” with moderate uncertainty (USDA, USDI 2000a, pp. 173 and 191). Under Alternative 4, this species is included in Category C, which requires management of high-priority sites, pre-disturbance surveys, and strategic surveys. For these alternatives, habitat (including known sites) is sufficient to support stable populations in the NWFP area

Under Alternatives 2 and 3, *Hemphillia glandulosa* in WA Western Cascades Province, would be included as sensitive by the Forest Service in Washington, which covers most or all of its range. However, based on the high rate of detection, the number of known sites, and protection within reserves, habitat (including known sites) is sufficient to support this species under all alternatives with or without SSSP.

***Hemphillia malonei* (Oregon)(new to this analysis)**

Information from the 2001 ASR indicates that the terrestrial slug *Hemphillia malonei* in Oregon is common, with more than 600 known sites, and is well distributed across its range (USDA, USDI Species Review Panel 2001). Over 300 additional sites have been recorded since the 2001 Annual Species Review, providing a clearer understanding of its current range. Eight RMS detections are consistent with known site numbers nearing 1,000. A high proportion of known sites are within non-reserve land allocations.

Under Alternatives 1, 2, and 3 *Hemphillia malonei* in Oregon would be removed from Survey and Manage and is assumed to be on SSSP for the Forest Service in Washington. Under Alternative 4, the species would be included in Category C, which requires management of high-priority sites, pre-disturbance surveys, and strategic surveys. Because of a high number of known sites, a high rate of detection, and protection by reserves, habitat (including known

sites) is sufficient to provide for stable populations under all alternatives with or without SSSP.

***Megomphix hemphilli* (North and South of the south boundary of Lincoln, Benton and Linn Counties) (new to this analysis)**

Information from the 2003 ASR indicates that the terrestrial slug *Megomphix hemphilli* has a high number of likely extant sites. Over 1,900 sites occur in the NWFP area, with four detected by RMS surveys. Seven percent of all known sites (143 sites) occur in reserves (USDA, USDI Species Review Panel 2003). Since the 2003 Annual Species Review, the high rate of detection continues.

Under Alternatives 1 and 2, *Megomphix hemphilli* (North and South) would be removed from Survey and Manage and not assumed to be on SSSP. Under Alternatives 3 and 4, *Megomphix hemphilli* (North) would be included in Category A, which requires management of all known sites, pre-disturbance surveys, and strategic surveys. Under Alternative 3, *Megomphix hemphilli* (South) would be removed from Survey and Manage and not assumed to be on SSSP. Under Alternative 4, it would be included in Category F, which requires strategic surveys. This species also requires management of sites known as of September 30, 1999 “for as long as [it] remains in Category F” – see Chapter 2. Because of a high number of known sites, high amount of potential habitat and distribution across its range, habitat (including known sites) is sufficient to provide for stable populations for this species under all alternatives with or without SSSP.

***Monadenia churchi* (new to this analysis)**

Information from the 2001 ASR indicates that the terrestrial snail *Monadenia churchi* is common, having extant known sites in excess of 2300, of which 2213 were on federal land. Detections within the NWFP appeared well distributed, with 49% of the known sites within reserves. Strategic survey results confirm this species is common, having the highest rate of RMS surveys detections of any mollusks at 55. Analysis suggests such high numbers indicates little-to-no concern for persistence (USDA, USDI Species Review Panel 2001). Since the 2001 Annual Species Review, new information provides more clarity of this species habitat association, suggesting that it is a habitat generalist (Dunk et al. 2004).

Under Alternatives 1, 2, and 3, *Monadenia churchi* would be removed from Survey and Manage and not assumed to be on SSSP. Under Alternative 4, *Monadenia churchi* would be included in Category F, which requires strategic surveys. This species also requires management of sites known as of September 30, 1999 “for as long as [it] remains in Category F” – see Chapter 2. Based on the high number of known sites, rate of detection, protection by reserves, and broad range distribution, habitat (including known sites) is sufficient to provide for stable populations in the NWFP area under all alternatives.

***Monadenia infumata ochromphalus* (new to this analysis)**

Information from the 2003 ASR indicates that the terrestrial snail, *Monadenia infumata ochromphalus* is more common than previously thought. Over a hundred new sites and numerous detections during RMS surveys suggest the species is common. Fifty-four percent of known sites occur in reserves and 31 percent of RMS survey detections occurred in reserves. The rate of detection may be an underestimate of abundance because pre-disturbance surveys were not performed (USDA, USDI Species Review Panel 2003). Since the 2003 Annual Species Review, new information provides some clarity of this species’ habitat association. It appears to be associated with many late-successional forest characteristics at the micro-scale and with plantations at the meso-scale (Dunk et al. 2004).

Under Alternatives 1 and 2, *Monadenia infumata ochromphalus* would be removed from Survey and Manage and not assumed to be on SSSP. Under Alternatives 3 and 4, this species would

be included in Category B, which requires management of all known sites, equivalent-effort surveys, and strategic surveys. For this species, equivalent-effort surveys apply “for as long as it remains in Category E or B” – see Chapter 2. Based on a high number of known sites, rate of detection, amount of potential habitat, protection by reserves and good distribution across its range, habitat (including known sites) is sufficient to provide for stable populations in the NWFP area under all alternatives.

***Pristiloma arcticum crateris* (changed category)**

This species is known from moderate numbers of sites spread across a broad range. *Pristiloma arcticum crateris* is believed to be associated with riparian areas in at least part of its range (USDA, USDI 2003b). Detections are within close proximity to wet areas, helping affirm its association to riparian areas. Recent (2006) 25 percent increases in known sites makes *Pristiloma arcticum crateris* more common and better distributed than previously thought. Recent new sites suggest the range to be straddling the Cascades and having good continuity.

Under Alternative 1, *Pristiloma arcticum crateris* is included in Category A, which requires management of known sites, pre-disturbance surveys, and strategic surveys. Under Alternative 1, habitat (including known sites) is sufficient to support stable populations in the Northwest Forest Plan area.

Under Alternative 2, *Pristiloma arcticum crateris* would be included in both BLM and Forest Service SSSP in Oregon in most or all of its range. Known sites and suitable habitat on federally managed lands (in the Survey and Manage portion of their ranges) occur almost exclusively on National Forest System lands (ISMS database April 2003). Because of recent increases in known site numbers and its association with riparian habitats, habitat (including known sites) is sufficient to support stable populations in the NWFP area with or without SSSP.

Under Alternatives 3 and 4, this species is included in Category B, which requires management of known sites, equivalent-effort surveys, and strategic surveys. For this species, equivalent-effort surveys apply “for as long as it remains in Category E or B” – see Chapter 2. Under Alternative 3, removal of the pre-disturbance survey requirement in non-late-successional and non-old-growth forest stands could result in loss of some sites. This could result in some minor loss of population connectivity and interaction. However, because of recent increases in known site numbers and its association with riparian habitats, habitat (including known sites) is sufficient to support stable populations in the Northwest Forest Plan area under Alternatives 3 and 4.

***Vorticifex klamathensis sinitsini* (new to this analysis)**

Information from the 2001 ASR indicates that the aquatic snail *Vorticifex klamathensis sinitsini* is not closely associated with late-successional or old-growth forests. It is known from only seven aquatic sites in Oregon, not on Forest Service or BLM lands and not near late-successional forests. The 2000 FSEIS outcome for Alternative 1 was “sufficient habitat” (USDA, USDI Species Review Panel 2003). No new information or detections have been obtained since the 2001 Annual Species Review.

Under Alternatives 1 and 2, *Vorticifex klamathensis sinitsini* is removed from Survey and Manage and assumed to be on SSSP for the Forest Service in Oregon. Under Alternatives 3 and 4, this species would be included in Category E, which requires management of all known sites and strategic surveys. If new sites were discovered on Forest Service or BLM lands, the species would be offered protection by Riparian Reserves and other elements of the Aquatic Conservation Strategy. Therefore, habitat (including known sites) is sufficient to provide for stable populations in the NWFP area under all alternatives with or without SSSP.

Amphibians

Affected Environment

Del Norte Salamander (*Plethodon elongatus*)(new to this analysis)

The Del Norte salamander, *Plethodon elongatus*, occurs across 1.9 million hectares (ha), of which 1.3 million ha (70%) is on federal lands distributed entirely within the area of the Northwest Forest Plan (Clayton et al. 2005). The range includes or intersects part of 269 6th-field watersheds (= hydrologic unit code), of which almost half (127 of 269) were >90% federally managed (Nauman et al. unpub. 2002). By 6th field watershed, about one-third (77 of 269) of the watersheds had <10% large federal reserves by area, a quarter (62 of 269) had >90% federal reserves and the remainder were evenly distributed in the 8 intermediate classes by 10% increments (e.g., about 10-20 watersheds in each class: 11-20% reserves, 21-30%, etc.; Nauman et al. unpub. 2002). Within the species' range on federal lands, the large blocks of federal reserved lands occupy a distinct north-to-south core area of the range, with reduced large reserve coverage in portions of the federal range, specifically in the north and northeast portion of the range in Oregon and parts of the southernmost range in California. Not included in these large reserves are the Riparian Reserves and other smaller reserves such as the known spotted owl activity centers, within which these animals may occur if their habitat coincides with those areas.

Welsh et al. (2006) modeled *P. elongatus* habitat in California, comparing occurrences in reserved and non-reserved lands. They found that their best habitat model estimated occupancy rates to be greater for reserved lands, suggesting that reserved lands had higher habitat quality than non-reserved lands. Habitat in Oregon has not been assessed, however recent large-scale stand replacement fires may have altered some critical components of habitat in Oregon, including parts of the species' range in reserves (e.g., Biscuit fire).

Compilation of site data for this species has encountered quality control issues such as duplicate records, making the actual known site number difficult to assess. While about 1800 site records were compiled as of 2001, it was estimated that these likely represent between 700 and 1000 sites (USDA, USDI Species Review Panel 2001). An analysis that combined records within 100 meters of each other to eliminate duplicates resulted in 885 unique localities on federal and non-federal lands (Nauman et al. unpub. 2002). The 100-meter criterion was an estimate chosen due to limited salamander dispersal ability such that this distance may distinguish individuals or subpopulations. Over 350 records were not mappable due to locality imprecision. The 885 unique sites included 171 from museum records, 119 records from private land managers, and 595 records from federal researchers and land managers. Since the 2001 compilation of data for this species (USDA, USDI Species Review Panel 2001), 317 new site records have been reported, although a 100-meter proximity criterion has not been applied to these data and whether these overlap previous records is not known.

In a sampling effort at CVS/FIA plots in California allowing inference to the sampled population, the Del Norte salamander was detected at 35 of 307 plots (11.4%); preliminary results estimated this salamander to occur across a total of 230,000 ($\pm 67,000$) plots throughout the sampled range of the species in California (USDA, USDI Species Review Panel 2001). However, there were uncertainties expressed regarding this brief 2-page report because, for example, methods were not detailed.

Three discrete populations for *Plethodon elongatus* have been described using mitochondrial DNA techniques (Mahoney 2004). The largest of these populations (northern group) occurs in both Oregon and California, encompassing 206-214 6th-field watersheds and 1.3 million ha; half of these watersheds were >90% federally managed, with large reserved land allocations occurring in a north-south band down the center of this area (Nauman et al. unpub. 2002). The two southern genetic groups are more closely related (Mahoney 2004), and are poorly

delineated geographically due to fewer samples, but together potentially occur across 68,000 to 548,000 ha and, depending on how range decisions are made, intersect 6 to 69 6th-field watersheds (Nauman et al. unpub. 2002). The proportion of these watersheds with >90% federal lands ranges from 28% to 42% for the different estimated areas. Large blocks of federal reserved lands occur in the northeastern portion of this estimated area (Nauman et al. unpub. 2002). The “Lonesome Ridge” population is defined by only 3 sites (Mahoney 2004, Nauman et al. unpub. 2002), but these appear to be in an areas with large federal reserves (Nauman et al. unpub. 2002; comparison of Mahoney’s Figure 1 and Nauman et al. unpub. 2002 Figure 4). The southernmost group is described from about 10 sites and appears to occur on fewer large federal reserves.

A recent study (Karraker and Welsh 2006) in California found that combined numbers of both *Ensatina eschscholtzii* and *P. elongatus* were lower in clearcuts than in late-seral forests. Their data suggest that *P. elongatus* was more affected by clearcuts than *Ensatina*. *Ensatina* was four times more abundant than *P. elongatus* across all sites, but six times more abundant in clearcuts. In contrast, in a different study in Oregon, Biek et al. (2002) did not see an effect of clearcutting on *P. elongatus*, relative to intact stands, attributing their result to the down wood left at the site post-harvest. These recent studies add to the body of literature already existing for *P. elongatus* which has documented old-growth forest associations (e.g., Welsh and Lind 1988, 1991, 1995; see review in Blaustein et al. 1995) and their occurrence in young managed stands along the Mesic coastal zone (Diller and Wallace 1994). Caution should be used when applying results from each of these case study areas to the species range-wide; direct inference is not valid and it is not clear if detectability of animals may have affected results. Nevertheless, some data now accumulating for *P. elongatus* suggests that timber harvest may reduce abundances in some circumstances but not necessarily eliminate the species from sites.

Karraker and Welsh (2006) also found 5 recaptured marked *P. elongatus* had moved, on average, 26.5 m (range 15 to 45 m), which has implications for potential response to timber harvest in non-reserved lands. If habitat were to become unsuitable, they may not be able to move to new areas due to their low mobility. However, with small home ranges, these animals may be able to persist in small protected areas such as riparian areas or owl cores; whether such areas can retain persistent populations is unknown.

Siskiyou Mountains Salamander (*Plethodon stormi*)(changed category)

The known range of the Siskiyou Mountains salamander is limited to a small area near the Oregon-California border, and known sites have increased substantially from 1993. There are 374 total federal known sites of Siskiyou Mountains salamanders, including 201 (54% of total) new federal sites detected since 2004, many of which were detected during pre-disturbance surveys for mollusks, or strategic surveys for salamanders. The high number of recent sites may be explained by the use of different site definitions by different surveyors; sites identified by mollusk surveys may indicate locations of individual salamanders (Reilly 2006 pers. comm.), whereas sites identified by amphibian surveys are based on the polygon of contiguous habitat within which an individual was found and may include more than one individual salamander’s location (Clayton et al. 2005). Only 47 sites were known in 1993, just 13% of the current number. Habitat is forested, rocky substrates under a closed canopy that provides cool, moist microclimates (Ollivier et al. 2001). Additionally, certain tree species and lower elevations were associated with salamander occurrence in a recent landscape-scale habitat model for this species north of the Siskiyou crest (Suzuki et al. 2006). The species can occur in all seral stages but the majority of sites are in older forests (mature and old-growth) and abundances are higher in older forests (USDA, USDI Species Review Panel 2000 and Nussbaum 1974).

Because ecology and biological diversity of this animal appears to differ north and south of the Siskiyou Mountain crest near the Oregon-California border, the range for this species has been split for management considerations (USDA, USDI Species Review Panel 2001). On federal lands north of the crest, there are 325 known sites. South of the crest, there are 49

known sites on federal lands. In the north, only about 13% of known federal sites are in reserves, with 86% occurring in Adaptive Management Areas or Matrix. A landscape-level habitat model and habitat suitability map developed for the north group shows patchy occurrence of habitat for salamanders across the northern landscape, with clusters of sites in these modeled habitat patches (Suzuki et al. 2006). In the south, 21 of 49 (43%) known federal sites occur in Matrix, and 28 of 49 (57%) occur in federal reserves. A probability sampling effort conducted south of the Siskiyou crest addressed estimated occupancy at randomly selected grid cells (0.4 x 0.4 km) across federal reserves and non-reserves at lower elevations (Nauman and Olson 2006). There was an equitable estimated occupancy rate between the two land allocations (reserves: 409 (SE 153) occupied grid cells; non-reserves: 443 (SE 136) occupied grid cells). However, there were significantly fewer captures at grid cells in reserves than non-reserves, likely due to the distribution of non-reserves in the wetter portion (likely optimal habitat) of the landscape. Hence, this infers there is an estimated lower abundance (salamanders per area) across reserved federal lands.

Two genetically distinct lineages have been identified (Mahoney 2004, DeGross 2004, Mead et al. 2005). One occurs across the range of the north group and into part of the south group, along its central and eastern area south of the Siskiyou crest. The second lineage, occurs only along the south and western portion of the south group (DeGross et al. 2006). Occurrences of these two populations in the south group appear to fall in both federal reserve and non-reserve land allocations, but estimates of number of sites or proportion of range per population occurring in each type of federal land allocation is not available at this time.

At the southernmost extent of the species range, genetic and morphological analyses have revealed another distinct population that is a completely separate lineage now recognized as a new species (Scott Bar salamander, *Plethodon asupak*; Mead et al. 2005, Mead 2006). This population is considered together with the Siskiyou Mountains salamander. This species is not broken out for a separate and complete analysis of effects in this document because it is not a Survey and Manage species. To be added to the list of species managed as Survey and Manage requires an evaluation to determine whether it meets the requisite criteria; such evaluations are conducted during the Survey and Manage program's annual species review process, which, under Alternative 4 may require a plan amendment. However, it continues to be managed by the local unit following the Siskiyou Mountains salamander direction. 17 locations are genetically confirmed as *Plethodon asupak* (Mead 2006). Of these 17 sites, 14 occur on federal lands, with 3 (21% of federal sites) occurring on reserve and 11 (79%) on non-reserve land allocations. This species has one of the smallest ranges for a plethodontid salamander in North America (Mead 2006), extending about 20 km (12 mile) along its north-south axis and about 17 km (10 mile), east-to-west. Additional *Plethodon* species sites are documented within the area of these 17 genetically confirmed locations and are assumed to be this species (Williams 2006 pers. comm., Woodridge 2006 pers. comm.).

Environmental Consequences

Del Norte Salamander

The Del Norte salamander, *Plethodon elongatus*, was given a FEMAT rating of 90-10-0-0. These results appear to have assumed occupied sites would be protected with the protection buffer provisions that were part of the FEMAT's Option 9 before the rating panels were conducted. Although site numbers had not been compiled in 1993, a retrospective analysis by survey date suggests at least 481 had been detected at that time (Nauman and Olson 1999). In 1999, there were 882 sites known across 1.9 million ha (Nauman and Olson 1999) and the species was assigned to Category D in the 2001 Record of Decision (USDA, USDI 2001a). Later that year, the species was determined to be well-distributed across federal reserve allocations (USDA, USDI Species Review Panel 2001); a criterion for inclusion in Survey and Manage is that reserves and other elements of the Northwest Forest Plan do not provide for persistence.

Under Alternatives 1, 2, and 3, this species is removed from Survey and Manage, and is

assumed to be in the Special Status Species Program for the Forest Service in Oregon. The high number of sites, occupancy in reserves across its range, and large extent of reserved lands in its range suggests the species would be retained in a central core area along its entire north-to-south extent. There is risk to persistence in portions of its range (e.g., 6th-field watersheds) with few large federal reserves, due to the apparent sensitivity of these animals to clearcut timber harvest and their low mobility, which likely affects their recolonization of disturbed areas. Riparian areas and other small areas of intact habitat likely contribute to local areas of persistence within federal Matrix and Adaptive Management Areas, however, it is uncertain to what degree such areas contribute to stable populations or offer population resiliency to disturbances. For its sister species, the Siskiyou Mountains salamander, the role of riparian reserves and other small habitat areas were evaluated in the draft conservation strategy (Olson et al. 2005); the outcome was a recommendation to identify additional high-priority sites to ensure well-distributed populations within and among 6th-field watersheds.

The distribution of genetically discrete populations also requires consideration. In California, where this species is not included within the Agencies' SSSP, the northern population is likely at reduced risk due to its larger spatial distribution and occurrence on large blocks of federal reserves. Uncertainty of effects is greater for the southern two populations because their spatial distribution relative to land ownerships and allocations is unknown. However, their distributions appear considerably smaller than for the northern group and likely overlap large federal reserves. More information about the distribution of these two populations is needed to adequately assess them.

In Oregon, where this is an SSSP species and only one genetic population occurs, it is highly likely to persist on the extensive federal lands within its range. However, there are 6th-field watersheds along the margins of the species range where Del Norte salamanders appear at greater risk due to predominance of non-reserved lands, for example, along northern and the eastern extent. It is possible that some of these portions of the species range would be subject to losses in Oregon due to site-specific management discretion permitted by the SSSP direction. Similarly, in Oregon without SSSP under Alternative 2, there would likely be marginal portions of the species range subject to increased risk of losses.

However, under Alternatives 1, 2 and 3, and under Alternative 2 without SSSP, there is sufficient habitat to provide stable populations range-wide in the NWFP area, although there is uncertainty relative to the southernmost two genetic populations.

Under Alternative 4, this species would be included under Category D, which requires strategic surveys and management of high-priority sites. It is assumed that all sites would be managed until management recommendations were developed. It is likely that the distribution of habitat and all three discrete populations relative to federally reserved and non-reserved lands would be taken into consideration in this process. Therefore, under Alternative 4, there is sufficient habitat to provide stable populations range-wide in the NWFP area.

Siskiyou Mountains Salamander

The Siskiyou Mountains salamander, *Plethodon stormi*, was given a FEMAT rating of 50-30-15-5. The rating reflected its naturally patchy distribution and was not primarily a result of alternative design or federal management (USDA, USDI 1994a, Appendix J2:426). The species has an extremely small range. Because of its small population size, there was expected to be some risk of extirpation regardless of protective measures undertaken (USDA, USDI 1994a:3&4-177, and Appendix J2:427). The Siskiyou Mountains salamander did not meet the Survey and Manage persistence criterion to maintain stable, well-distributed populations from implementation of other elements of the Northwest Forest Plan without Survey and Manage (e.g., land allocations, down wood) (USDA, USDI 2001a, Attachment 1:3 and USDA, USDI 2002a). In the north, most of the federal range occurs within an Adaptive Management Area, where programmed timber harvest activities can occur. Less than 10 percent of the high

quality habitat is in reserves and much of this range is suitable habitat for the species (Clayton et al. 2005). In the south, the species is patchier in distribution, with fewer sites. In addition, a new genetic population has been identified (DeGross 2004), so maintenance of distinct populations is important.

Under Alternative 1, this species would be included in Category A in the south range, which requires pre-disturbance surveys, strategic surveys, and management of all known sites. It would be included in Category D in the north range, which requires strategic surveys and management of high-priority sites. Under Alternative 4, this species would be included in Category C range-wide, which requires pre-disturbance surveys, strategic surveys, and management of all known sites. Alternatives 1 and 4 likely would provide sufficient habitat (including known sites) to allow the Siskiyou Mountains salamander to stabilize in a pattern similar to reference distribution on federally managed lands in the Northwest Forest Plan area (USDA, USDI 2000a:340-357). This result is analogous to Outcome A from FEMAT; thus, if a similar rating process were conducted now, this species would have a preponderance of points in Outcome A. Under Alternatives 1 and 4, habitat (including known sites) is sufficient to support stable populations in the NWFP area, for both the northern and southern ranges.

Under Alternatives 2 and 3, the Siskiyou Mountains salamander is assumed to be Forest Service Sensitive in Oregon and Region 5, and Bureau Sensitive in Oregon. Discretion in survey methodology and in the management of known sites under the Special Status Species Programs results in uncertainty whether all sites would be detected and managed. Lack of detection and subsequent losses of highly localized populations or subpopulations are possible, especially in the southern portion of the species range where multiple genetic lineages have been detected. This, in turn, creates some uncertainty in the analysis of environmental consequences because the inadvertent loss of undetected sites may affect the maintenance of stable, well-distributed populations, particularly in the southern range. Some gaps in the species distribution may result. With two genetic subunits south of the Siskiyou Mountains crest, in addition to the population now known as the Scott Bar salamander, there is a particular concern in the south for site-specific losses that may affect genetic population stability. While it has been estimated that there are about 800 occupied grid cells in the south, it is unknown how those are apportioned between the genetic populations. In addition to anthropogenic disturbances, natural disturbances, effects of global climate change or stochastic processes may affect their persistence. The management discretion in the Special Status Species Programs is constrained by policy objectives that include maintaining viable populations in habitats throughout their geographic range on National Forest System lands and ensuring that actions do not contribute to the need to list under the Endangered Species Act. The Special Status Species Programs do not have a specified process to improve knowledge of the species that would facilitate adaptive management.

Under Alternatives 2 and 3, the Siskiyou Mountains salamander would have habitat (including known sites) sufficient to support stable populations range-wide in the NWFP area, although there would be insufficient habitat to support stable populations in a portion of the NWFP area. In particular, the Scott Bar salamander population in the south may be particularly vulnerable to gaps within its tiny range. There are only 3 (21%) confirmed known sites occurring on federal reserved lands, and 11 sites on non-reserved federal lands, hence both management activities and natural disturbances are concerns for these few localities. The Agencies' Special Status Species Programs would help provide a reasonable assurance of maintaining stable, well-distributed populations if occupied sites were managed for site persistence, and in the south, surveys to detect occupied areas and delineation of genetic populations were conducted.

Under Alternative 2 without SSSP, the Siskiyou Mountains salamander likely would benefit by reserved land allocations of the federal Northwest Forest Plan. However, for the northern range, 84% of known sites occur on federal non-reserved lands. Federal reserved lands are clustered towards the southern boundary of this north group at the Siskiyou crest. It is likely that higher elevation areas, coincident with these reserves, do not provide optimal habitat for

this species (Suzuki et al. 2006). Additionally, this species may be vulnerable to some land management practices on federal reserved lands, and to natural disturbances on this landscape such as fire, both of which may result in site-specific losses. In addition, global climate change and stochastic processes may affect this species on any land allocation. Of those sites on federal non-reserved lands, it is currently unknown as to how many of them fall within locations likely to remain undisturbed. Incidental benefits to this species would occur as owl, botanical, riparian, or retained habitat intersects salamander-occupied habitats. However, the extent of this overlap and whether such patches would protect salamander populations is uncertain. On non-reserved federal lands, while the negative effects on this species of land management activities is a particular concern, natural disturbances also may affect site-level species persistence. Hence, there is uncertainty regarding the maintenance of sites on non-reserved lands. For the southern range, federal reserved lands are in greater proportion and from random surveys, an estimated 400 occupied 0.4 x 0.4 km grid cells in reserves. However, abundance of salamanders in reserve grid cells is estimated to be lower than in non-reserves. In addition, it is unknown how reserves are apportioned between the two genetic populations of this species south of the Siskiyou crest. Hence, there is uncertainty regarding potential losses specific to these populations and the Scott Bar salamander.

Under Alternatives 2 without SSSP, the Siskiyou Mountains salamander would have habitat (including known sites) sufficient to support stable populations range-wide in the NWFP area, although there would be insufficient habitat to support stable populations in a portion of the NWFP area. Potential gaps on federal lands may be coincident with non-reserves or reserves due to anthropogenic and natural disturbances, effects of global climate change and stochastic processes. Due to its small range and few known sites on federal lands, the Scott Bar salamander is particularly vulnerable to losses.

Great Gray Owl (changed category)

Affected Environment

Under Alternatives 1 and 4, the great gray owl is included in the Survey and Manage Standards and Guidelines. Under Alternatives 2 and 3, the great gray owl is assumed to be Forest Service Sensitive in Washington and California. The Survey and Manage Standards and Guidelines and the Agencies' Special Status Species Programs have similar strategies that include both pre-disturbance surveys or pre-project clearances and management of known sites. It is not included on Agencies' Special Status Species Programs in Oregon, where all the known sites within the NWFP are located.

There has been an increase in the known range of the great gray owl since the Northwest Forest Plan Final SEIS. At the time of the Northwest Forest Plan Final SEIS, the great gray owl was documented as nesting in an area along the central Cascade Mountains of Oregon and in a small area southwest of Medford, Oregon. Published data (Hayward and Verner 1994) and the results of surveys indicate that the range is likely much greater. Great gray owls have been documented over much of the Cascade Range in Oregon and Washington, although nesting has not been confirmed in some of these new areas. In addition to increasing the geographic area of known and expected great gray owl nesting, recent information indicates that the great gray owl uses elevations below 3000 feet, the lower limit described in survey protocols (Huff et al. 1996 and USDA, USDI Species Review Panel 1999).

Originally, great gray owl locations were classified as either an "Activity Center" or a "Nest Site." An activity center is the point that best describes the focal area of use by territorial owls. It spans from active nest to diurnal location of pair/single to nocturnal location of pair/single. A nest site is the known nest tree and the immediate area surrounding it.

In the 2002 Annual Species Review and in the proposed protocol only an active nest site is considered a great gray owl site. The working definition of a great gray owl site is:

1. A male and female are heard and/or observed in proximity (less than 1/4 mile apart) to each other on the same outing during daylight hours.
2. A male and female are heard and/or observed in proximity (less than 1/4 mile apart) to each other on two separate outings at night within a 2-year timeframe.
3. A male takes prey to a female.
4. A female is seen on a nest.
5. One or both adults are observed with young.
6. Young are observed and can be determined as the correct species by the presence of an adult great gray owl or other means that is defensible.

According to this definition, there are currently 119 great gray owl sites within the NWFP area (GeoBOB/ISMS database). Although the great gray owl is found in Alaska, Canada, Europe and Asia, it has a spotty distribution throughout the Northwest Forest Plan area and the current population there is considered low. While there are sightings throughout the NWFP area dating back to 1967, incidental observations of great gray owls are not considered sites.

Recent information better clarifies the owl's habitat needs. The 2002 ASR Summary describes habitat as highly specialized, requiring juxtaposition of late-successional and early seral forest/meadows. This habitat is limited within the range of the species within the NWFP area. The ephemeral nature of early seral forests and the encroachment of brush and conifer into natural meadow habitats further limit the amount of available suitable habitat (USDA, USDI Species Review Panel 2002). The Panel recommended changing its category status from uncommon to rare.

Environmental Consequences

Many raptors are protected under the Migratory Bird Treaty Act. Implementation of the Migratory Bird Treaty Act is handled differently by each agency. Generally, the Migratory Bird Treaty Act provides little additional protection for the great gray owl. Raptors, in general, are handled differently by each administrative unit. Protection measures vary from simple buffers of active nest sites to consideration as a Management Indicator Species, which requires some analysis of impacts and associated mitigation measures. These management activities do not vary between the alternatives.

FEMAT rated the great gray owl as having an 83 percent likelihood of Outcome A (habitat sufficient to be stable, well distributed across federally managed lands), a 17 percent likelihood of habitat sufficient to be stable with significant gaps in its historic distribution on federally managed lands, and a 0 percent likelihood of continued existence only in refugia or extirpation from federally managed lands (USDA et al. 1993:IV-166), however these results appear to have assumed occupied sites would be protected with "protection buffer" provisions that were part of the FEMAT's Option 9 before the rating panels were conducted. One of the action alternatives (Alternative 8) considered in the Northwest Forest Plan Final SEIS did not include protection buffer provisions for the great gray owl, provided for less reserve, and generally provided less favorable habitat conditions (USDA, USDI 1994a:2-56 through 2-59 and 3&4-178). While this less protective alternative projected a 100 percent likelihood of providing habitat of sufficient quality, distribution, and abundance to allow the great gray owl populations to stabilize, it estimated a slightly higher likelihood of resulting in significant gaps in the historic distribution across federally managed lands (USDA, USDI 1994a:3&4-181).

The best available science continues to support the Northwest Forest Plan conclusion that the continued persistence of this species relies on the ability to find and protect available nest sites during management activities (Bull and Henjum 1990). Hayward and Verner (1994) stated that "The loss of nesting habitat in central and eastern Oregon has been identified as the most immediate threat to great gray owl persistence in that region. Therefore, determined

management of nesting habitat should be a priority, without which local persistence of the species will be in jeopardy." Surveys are needed to document the location where protection is needed (Bull and Henjum 1990, Wahl 2006 pers. comm., Blow 2006 pers. comm.).

Under Alternative 1, this species would be included in Category A, which requires management of known sites, pre-disturbance surveys, and strategic surveys. Under Alternative 4, this species would be included in Category C, which requires management of high-priority sites, pre-disturbance surveys, and strategic surveys. It is assumed that all sites would be managed until management recommendations are developed. Because the Survey and Manage mitigation measure provides protection of known sites, Alternatives 1 and 4 provide sufficient habitat (including known sites) to allow the species to stabilize in a pattern similar to its reference distribution (USDA, USDI 2000a:367).

Under Alternatives 2 and 3, this species is not included in the Forest Service' Sensitive Species Program in Oregon where all the known sites are located. Because an outcome of sufficient habitat relies on protection of known sites, Alternatives 2 and 3 would have insufficient habitat (including known sites) to support stable populations in the NWFP area.

Oregon Red Tree Vole (*Arborimus longicaudus*)(Mesic)(new to this analysis)

Affected Environment

The red tree vole (*Arborimus longicaudus*) is the only mammal included in the Survey and Manage Standards and Guidelines. Because of concerns that red tree voles were less common in some regions, management of the species was subdivided into three biological zones in the previous Survey and Manage SEISs. The Northern Mesic Zone and Xeric Zone are addressed in the 2004 FSEIS and July 2006 Supplement. The following discussion of the red tree vole in the Mesic Zone (See Figure A) is new to this analysis

The available data suggest that tree voles are patchily distributed on federal lands throughout most of the Mesic Zone. They usually are found at elevations below about 3,600 feet, and are uncommon or rare at higher elevations in this zone. There are a moderate number of likely extant sites in the Mesic Zone. Recently active vole nests have been confirmed at 551 locations in the Mesic Zone including 547 on federal lands and 4 on non-federal lands (Table C). An analysis of the Random Double Sample (RDS) Survey data indicates that, on federal lands within the range of the red tree vole, tree voles were associated with old forests, and that within the Mesic Zone there was evidence of recent occupancy by tree voles in 30% of the 2-ha plots surveyed (Table D). These results suggest that tree voles are reasonably well represented on federal lands in the Mesic Zone (Table D). These estimates are large, but should be qualified. The estimates were based on the number of recently used nests found by climbing trees and verifying the presence of green- or tan-colored Douglas-fir resin ducts or cuttings in nest structures (USDA, USDI 2000f; USDA, USDI 2002c), as opposed to counts of nests that were actually occupied by voles. While this protocol was the best available at the time it was done, subsequent experience at many sites indicates resin ducts stay green for months when they are stored inside the nest out of the sunlight, and they can be tannish or orangish for more than a year if they are inside the nest. Thus, it is possible that the number of plots with "active" tree vole nests was biased high in the RDS surveys. In a more recent study (Swingle 2005) suggested that the only way to determine if nests are occupied is to physically probe each nest. Even this method does not always work because some voles vacate their nests before the climber reaches the nest, and others are difficult to chase from their nests. In addition, tree voles use multiple nests (Swingle 2005), so estimates based on the number of recently used nests may overestimate the number of plots that are actually occupied by voles. It is also important to recognize that the estimates of the percent of the NWFP area occupied by tree voles in Table D are not comparable to estimates for the other species in Table E. The estimates for the tree vole were based only on the area surveyed (lower elevations in western

Oregon and NW California), whereas the estimates for all other species were based on the entire area of the NWFP.

The tree vole Taxa Team involved with the 2003 Annual Species Review estimated that the proportion of potential habitat in large reserves in the Mesic Zone was 35%. Based on these results, they concluded that the proportion of sites and habitat in reserves was not high but that there was a high probability that potential habitat in reserves would be occupied. The Team also suggested that the longer rotation ages required in BLM Connectivity Blocks might allow for retention of tree voles within the connectivity blocks and re-colonization of habitat as the distribution of suitable habitat changes over time (USDA, USDI Species Review Panel 2003). Additionally, Riparian Reserves comprise 40 to 50% of the Mesic Zone.

Environmental Consequences

In the Mesic Zone, the red tree vole is removed from Survey and Manage under Alternatives 1, 2, and 3. Under Alternative 4, it is included in Survey and Manage in Category C, which includes management of high-priority sites, pre-disturbance surveys, and strategic surveys.

Under Alternatives 1, 2 and 3, with its larger Riparian Reserves than those prescribed by FEMAT, the rating for the red tree vole was improved by an undetermined amount above 73 percent likelihood of sufficient habitat to provide for a stable, well-distributed population on federal lands and 0 percent likelihood of extirpation in the NWFP area. Under Alternatives 1, 2, and 3, there are no requirements to do pre-project surveys for tree voles in the Mesic Zone. This results in some risk that subpopulations of tree voles in Late-Successional Reserves, Riparian Reserves, and late-successional patches in the Mesic Zone may become genetically or demographically isolated under Alternatives 1, 2, and 3. Although Alternative 4 would reduce this risk because it requires pre-disturbance surveys and protection of known sites, it is not clear that the reduced risk of genetic or demographic isolation associated with Alternative 4 is needed to achieve stable populations in the Mesic Zone. Because of the large size of Late-Successional Reserves and the connectivity provided by Riparian Reserves, all alternatives would have a high likelihood of providing sufficient habitat (including known sites) to provide for stable populations of tree voles on federal lands within the Mesic Zone.

Table D: Red Tree Vole RDS Survey: Estimated number of 2-ha plots with evidence of recent occupancy by red tree voles in different sub-regions of western Oregon.²

Sub-region	Number of plots surveyed	Plots with detections	Percent of survey plots with evidence of recent RTV occupancy		Estimated number of plot-sized areas with evidence of recent RTV occupancy ²	
			Mean	Standard Error (SE)	Mean	95% Confidence Interval (C.I.)
Xeric Zone	83	10	11.6	1.7	46,000	32,800 – 59,200
Mesic Zone	200	62	30.6	1	237,600	221,400 – 253,800
Northern Mesic Zone	85	9	10.1	1.2	36,400	27,600 – 45,200
Range-wide	368	81	20.9	0.8	319,900	295,100 – 344,700

¹ This survey was conducted solely within, or adjacent to, the known range of the red tree vole. The sampling area was restricted to 3,062,862 hectares of lower elevation areas in western Oregon from the Columbia River south to around the Klamath River in northern California. Detection in these surveys indicated at least one recently-used red tree vole nest was detected on a plot (old nests may also have been detected)

² Estimates were derived by extrapolating from the sample plots to all potential plots in each region.

Figure A. Red Tree Vole Surveys in the Mesic Biological Zone.

Symbols indicate presence or absence of vole nests at locations surveyed during project clearance surveys (circles) and RDS Surveys (squares) in 1995-2006.

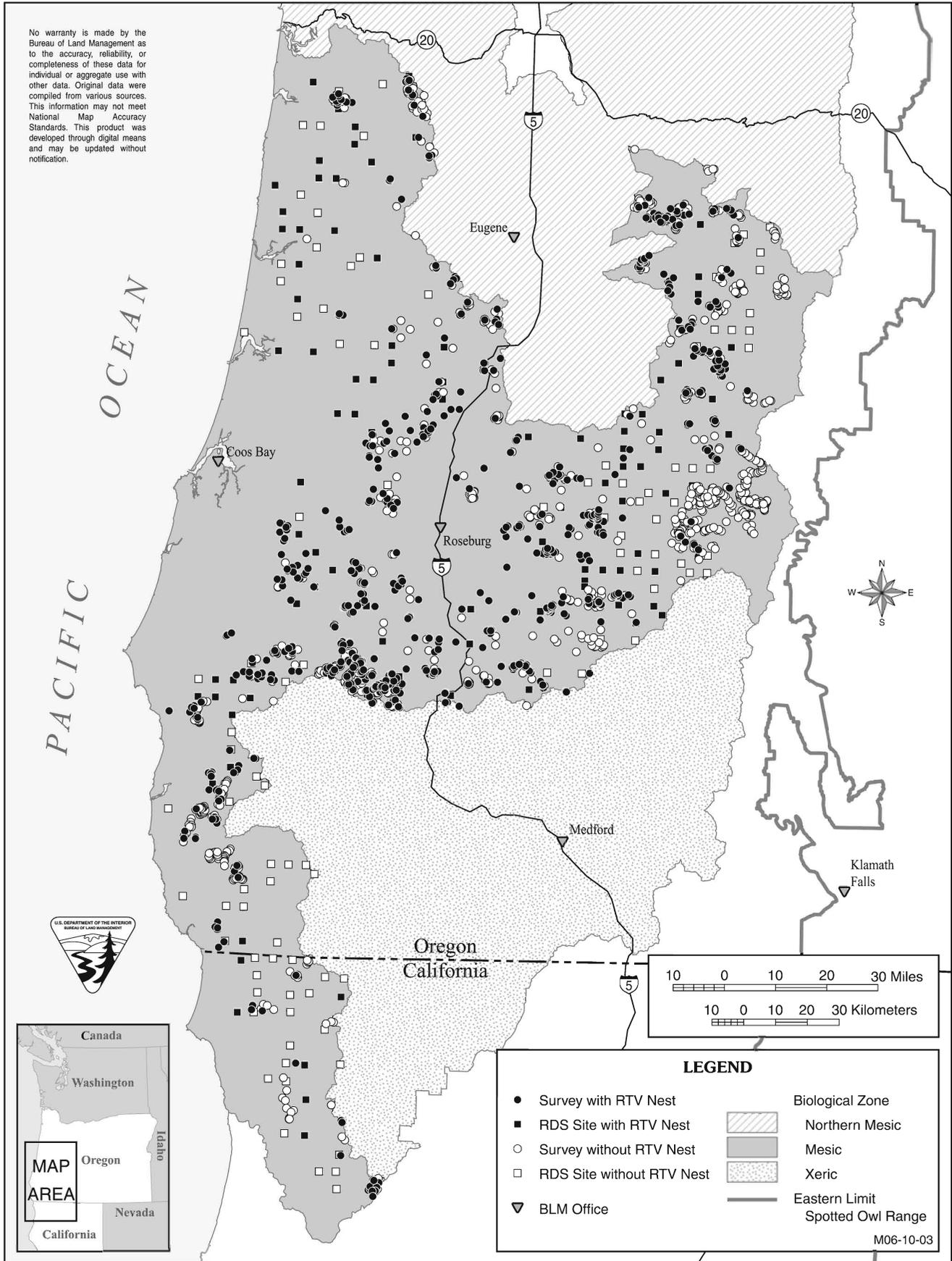


Table E. Probability Sampling Survey Results for the 85 Species Included in this Supplement

TAXA GROUP <i>Species</i> (Survey Region ³) <i>Note</i> : Results apply to NWFP area unless a smaller Survey Region ³ is specified in parenthesis.	Plots ⁵ with Detection	Percent of Survey Plots with detections within the survey area		Estimated ⁶ Number of plot-sized ⁵ areas with detections within the survey area	
		Mean	Standard Error (SE)	Mean	95% Confidence Interval (CI)
FUNGI⁴					
<i>Albatrellus flettii</i>	2	0.25	0.18	220,800	0 - 532,200
<i>Albatrellus flettii</i> (OW)	2	0.461	0.325	220,800	0 - 532,200
<i>Bondarzewia mesenterica</i>	0				
<i>Cantharellus subalbidus</i>	33	3.01	0.57	2,627,700	1,636,100 - 3,619,300
<i>Cantharellus subalbidus</i> (OCR)	16	31.991	7.413	1,209,800	649,200 - 1,770,400
<i>Cantharellus subalbidus</i> (OW)	2	0.691	0.515	331,000	0 - 824,400
<i>Cantharellus subalbidus</i> (UMP)	5	5.635	3.043	322,400	0 - 670,600
<i>Chromosera cyanophylla</i>	7	0.775	0.302	676,800	148,800 - 1,204,800
<i>Chromosera cyanophylla</i> (CA)	1	0.388	0.388	96,600	0 - 289,800
<i>Chromosera cyanophylla</i> (GIP)	1	0.558	0.558	28,300	0 - 84,900
<i>Chromosera cyanophylla</i> (OW)	5	1.152	0.51	551,900	63,900 - 1,039,900
<i>Clavariadelphus truncatus</i>	2	0.070	0.050	57,700	0 - 138,100
<i>Clavariadelphus truncatus</i> (UMP)	2	1.008	0.703	57,700	0 - 138,100
<i>Collybia bakerensis</i>	3	0.380	0.220	331,200	0 - 711,400
<i>Collybia bakerensis</i> (OW)	3	0.691	0.397	331,200	0 - 711,400
<i>Cordyceps capitata</i>	3	0.335	0.221	292,600	0 - 678,000
<i>Cordyceps capitata</i> (CA)	1	0.626	0.626	155,800	0 - 467,400
<i>Cordyceps capitata</i> (OCR)	1	0.701	0.701	26,500	0 - 79,500
<i>Cordyceps capitata</i> (OW)	1	0.23	0.23	110,400	0 - 331,200
<i>Craterellus tubaeformis</i>	78	9.61	1.19	8,398,800	6,325,600 - 10,472,000
<i>Craterellus tubaeformis</i> (CA)	6	3.041	1.239	757,000	140,200 - 1,373,800
<i>Craterellus tubaeformis</i> (GIP)	15	12.558	3.713	636,600	260,200 - 1,013,000
<i>Craterellus tubaeformis</i> (OCR)	5	13.825	1.34	522,800	421,400 - 624,200
<i>Craterellus tubaeformis</i> (OW)	41	12.682	2.005	6,074,200	4,153,800 - 7,994,600
<i>Craterellus tubaeformis</i> (UMP)	11	7.133	2.442	408,100	128,700 - 687,500
<i>Galerina atkinsoniana</i>	57	6.268	0.964	5,475,400	3,791,800 - 7,159,000
<i>Galerina atkinsoniana</i> (GIP)	24	22.223	4.649	1,126,600	655,200 - 1,598,000
<i>Galerina atkinsoniana</i> (OCR)	7	16.294	2.31	616,200	441,400 - 791,000
<i>Galerina atkinsoniana</i> (OW)	23	7.613	1.674	3,646,200	2,042,400 - 5,250,000
<i>Galerina atkinsoniana</i> (UMP)	3	1.512	0.85	86,500	0 - 183,700
<i>Galerina vittaeformis</i>	99	10.763	1.337	9,402,500	7,067,300 - 11,737,700
<i>Galerina vittaeformis</i> (CA)	10	6.341	2.1	1,578,500	533,100 - 2,623,900
<i>Galerina vittaeformis</i> (GIP)	27	35.32	7.787	1,790,600	1,001,000 - 2,580,200
<i>Galerina vittaeformis</i> (OCR)	35	53.915	9.737	2,038,800	1,302,400 - 2,775,200
<i>Galerina vittaeformis</i> (OW)	17	6.747	1.719	3,231,200	1,585,000 - 4,877,400
<i>Galerina vittaeformis</i> (UMP)	10	13.344	6.08	763,400	67,800 - 1,459,000
<i>Gomphus clavatus</i>	11	1.480	0.560	1,291,000	309,600 - 2,272,400
<i>Gomphus clavatus</i> (GIP)	3	2.919	1.965	148,000	0 - 347,200
<i>Gomphus clavatus</i> (OW)	6	2.245	0.998	1,075,400	119,200 - 2,031,600
<i>Gomphus clavatus</i> (UMP)	2	1.182	0.845	67,600	0 - 164,200
<i>Gomphus kauffmanii</i>	2	0.550	0.450	483,800	0 - 1,262,600
<i>Gomphus kauffmanii</i> (CA)	1	1.500	1.500	373,400	0 - 1,120,200
<i>Gomphus kauffmanii</i> (OW)	1	0.230	0.230	110,400	0 - 331,200
<i>Gymnopilus punctifolius</i>	4	0.505	0.251	441,600	3,800 - 879,400
<i>Gymnopilus punctifolius</i> (OW)	4	0.922	0.457	441,600	3,800 - 879,400
<i>Gyromitra esculenta</i>	21	2.434	0.678	2,126,000	941,400 - 3,310,600
<i>Gyromitra esculenta</i> (GIP)	3	1.673	0.941	84,800	0 - 180,200
<i>Gyromitra esculenta</i> (OW)	9	3.098	1.109	1,483,700	421,100 - 2,546,300
<i>Gyromitra esculenta</i> (UMP)	9	9.744	4.5	557,500	42,500 - 1,072,500
<i>Gyromitra infula</i>	8	0.763	0.34	666,600	73,400 - 1,259,800
<i>Gyromitra infula</i> (GIP)	1	0.558	0.558	28,300	0 - 84,900
<i>Gyromitra infula</i> (OW)	4	1.152	0.608	551,800	0 - 1,134,400
<i>Gyromitra infula</i> (UMP)	3	1.512	0.85	86,500	0 - 183,700

TAXA GROUP Species (Survey Region ³) <i>Note:</i> Results apply to NWFP area unless a smaller Survey Region ³ is specified in parenthesis.	Plots ⁵ with Detection	Percent of Survey Plots with detections within the survey area		Estimated ⁶ Number of plot-sized ⁵ areas with detections within the survey area	
		Mean	Standard Error (SE)	Mean	95% Confidence Interval (CI)
FUNGI⁴					
<i>Gyromitra melaleucoides</i>	7	1.49	0.62	1,301,200	217,200 - 2,385,200
<i>Gyromitra melaleucoides</i> (OW)	7	2.717	1.132	1,301,200	217,200 - 2,385,200
<i>Gyromitra montana</i>	1	0.033	0.033	28,800	0 - 86,400
<i>Gyromitra montana</i> (UMP)	1	0.504	0.504	28,800	0 - 86,400
<i>Helvella maculata</i>	1	0.366	0.366	319,500	0 - 958,500
<i>Helvella maculata</i> (OW)	1	0.667	0.667	319,500	0 - 958,500
<i>Hydnum umbilicatum</i>	32	4.616	0.867	4,032,600	2,518,400 - 5,546,800
<i>Hydnum umbilicatum</i> (CA)	5	2.653	1.18	660,400	73,200 - 1,247,600
<i>Hydnum umbilicatum</i> (OCR)	5	13.892	1.345	525,300	423,500 - 627,100
<i>Hydnum umbilicatum</i> (OW)	15	4.976	1.361	2,383,100	1,079,700 - 3,686,500
<i>Hydnum umbilicatum</i> (UMP)	7	8.104	4.273	463,600	0 - 952,400
<i>Mycena monticola</i>	11	2.587	0.863	2,259,900	752,900 - 3,766,900
<i>Mycena monticola</i> (CA)	6	5.825	2.626	1,449,900	142,900 - 2,756,900
<i>Mycena monticola</i> (GIP)	1	3.461	3.461	175,400	0 - 526,200
<i>Mycena monticola</i> (OW)	3	0.887	0.536	424,900	0 - 938,300
<i>Mycena monticola</i> (UMP)	1	3.665	3.665	209,700	0 - 629,100
<i>Mycena overholtsii</i>	3	0.380	0.220	331,200	0 - 711,400
<i>Mycena overholtsii</i> (OW)	3	0.691	0.397	331,200	0 - 711,400
<i>Neourmula pouchetii</i>	16	2.726	0.812	2,381,800	962,800 - 3,800,800
<i>Neourmula pouchetii</i> (CA)	1	1.423	1.423	354,200	0 - 1,062,400
<i>Neourmula pouchetii</i> (GIP)	3	1.673	0.941	84,800	0 - 180,200
<i>Neourmula pouchetii</i> (OW)	10	3.559	1.201	1,704,400	553,800 - 2,855,000
<i>Neourmula pouchetii</i> (UMP)	2	4.169	3.699	238,500	0 - 661,700
<i>Nivatogastrium nubigenum</i> (Hypogeous – RMS)	1	0.25	0.25	2,206,500	0 - 6,619,500
<i>Nivatogastrium nubigenum</i> (OW)	1	0.461	0.461	2,206,500	0 - 6,619,500
<i>Otidea leporina</i>	0				
<i>Otidea onotica</i>	9	1.464	0.568	1,278,600	287,000 - 2,270,200
<i>Otidea onotica</i> (OCR)	2	2.469	1.902	93,400	0 - 237,200
<i>Otidea onotica</i> (OW)	6	2.245	0.998	1,075,400	119,200 - 2,031,600
<i>Otidea onotica</i> (UMP)	1	1.92	1.92	109,800	0 - 329,400
<i>Phaeocollybia olivacea</i>	0				
<i>Pithya vulgaris</i>	5	0.412	0.205	360,100	1,300 - 718,900
<i>Pithya vulgaris</i> (CA)	2	0.776	0.546	193,200	0 - 464,800
<i>Pithya vulgaris</i> (GIP)	2	1.115	0.778	56,500	0 - 135,500
<i>Pithya vulgaris</i> (OW)	1	0.23	0.23	110,400	0 - 331,200
<i>Plectania melastoma</i>	0				
<i>Plectania milleri</i>	1	0.178	0.178	155,800	0 - 467,400
<i>Plectania milleri</i> (CA)	1	0.626	0.626	155,800	0 - 467,400
<i>Ramaria rubripermanens</i>	10	1.530	0.520	1,336,600	425,400 - 2,247,800
<i>Ramaria rubripermanens</i> (OW)	9	2.730	0.950	1,307,700	398,300 - 2,217,100
<i>Ramaria rubripermanens</i> (UMP)	1	0.500	0.500	28,800	0 - 86,400
<i>Sarcodon imbricatus</i>	1	0.033	0.033	28,800	0 - 86,400
<i>Sarcodon imbricatus</i> (UMP)	1	0.504	0.504	28,800	0 - 86,400
<i>Sarcosoma latahense</i>	1	0.126	0.126	110,400	0 - 331,200
<i>Sarcosoma latahense</i> (OW)	1	0.23	0.23	110,400	0 - 331,200
<i>Sarcosoma mexicana</i>	8	0.873	0.361	763,100	132,100 - 1,394,100
<i>Sarcosoma mexicana</i> (CA)	1	0.626	0.626	155,800	0 - 467,400
<i>Sarcosoma mexicana</i> (GIP)	1	0.558	0.558	28,300	0 - 84,900
<i>Sarcosoma mexicana</i> (OCR)	4	6.558	3.083	248,000	14,800 - 481,200
<i>Sarcosoma mexicana</i> (OW)	2	0.691	0.515	331,000	0 - 824,400
<i>Sarcosphaera eximia</i>	0				
<i>Tremiscus helvelloides</i>	3	0.320	0.210	281,200	0 - 652,200
<i>Tremiscus helvelloides</i> (CA)	2	1.010	0.740	252,300	0 - 618,900
<i>Tremiscus helvelloides</i> (UMP)	1	0.500	0.500	28,800	0 - 86,400

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		Mean	Standard Error (SE)	Mean	95% Confidence Interval (CI)
FUNGI⁴					
<i>Turbinellus floccosus</i>	25	3.269	0.842	2,855,600	1,383,800 - 4,327,400
<i>Turbinellus floccosus</i> (CA)	3	2.276	1.596	566,600	0 - 1,361,200
LICHENS ⁴					
<i>Bryoria pseudocapillaris</i>	0				
<i>Bryoria spiralis</i>	0				
<i>Bryoria tortuosa</i>	2	0.378	0.282	162,900	0 - 406,100
<i>Bryoria tortuosa</i> (OW)	2	0.689	0.514	162,900	0 - 406,100
<i>Calicium glaucellum</i>	70	8.466	1.194	3,653,600	2,623,200 - 4,684,000
<i>Calicium glaucellum</i> (CA)	4	1.535	0.754	188,700	3,100 - 374,300
<i>Calicium glaucellum</i> (GIP)	9	10.02	3.727	250,900	64,300 - 437,500
<i>Calicium glaucellum</i> (OCR)	2	4.448	3.99	83,100	0 - 232,100
<i>Calicium glaucellum</i> (OW)	37	11.948	2.04	2,827,000	1,861,800 - 3,792,200
<i>Calicium glaucellum</i> (UMP)	18	10.75	3.464	303,800	108,000 - 499,600
<i>Calicium viride</i>	45	5.041	0.921	2,175,500	1,380,100 - 2,970,900
<i>Calicium viride</i> (CA)	11	6.299	2.236	774,600	224,600 - 1,324,600
<i>Calicium viride</i> (OCR)	6	6.4	4.097	119,600	0 - 272,600
<i>Calicium viride</i> (OW)	18	4.732	1.135	1,119,500	582,500 - 1,656,500
<i>Calicium viride</i> (UMP)	10	5.726	2.397	161,800	26,400 - 297,200
<i>Chaenotheca furfuracea</i>	28	3.239	0.731	1,397,800	767,200 - 2,028,400
<i>Chaenotheca furfuracea</i> (CA)	5	1.919	0.839	235,900	29,700 - 442,100
<i>Chaenotheca furfuracea</i> (OCR)	4	8.897	4.019	166,200	16,000 - 316,400
<i>Chaenotheca furfuracea</i> (OW)	11	3.61	1.178	854,100	296,700 - 1,411,500
<i>Chaenotheca furfuracea</i> (UMP)	8	5.009	2.609	141,600	0 - 289,000
<i>Cladonia norvegica</i>	28	4.327	0.969	1,867,400	1,031,200 - 2,703,600
<i>Cladonia norvegica</i> (GIP)	8	7.767	3.224	194,500	33,100 - 355,900
<i>Cladonia norvegica</i> (OCR)	2	4.356	3.98	81,400	0 - 230,200
<i>Cladonia norvegica</i> (OW)	16	6.619	1.704	1,566,000	759,800 - 2,372,200
<i>Cladonia norvegica</i> (UMP)	2	0.899	0.647	25,400	0 - 62,000
<i>Dendroica intricatulum</i>	3	0.693	0.487	299,100	0 - 719,700
<i>Dendroica intricatulum</i> (CA)	2	1.991	1.653	244,800	0 - 651,200
<i>Dendroica intricatulum</i> (OW)	1	0.228	0.228	53,900	0 - 161,700
<i>Dermatocarpon meiophyllizum</i>	0				
<i>Fuscopannaria saubinetii</i>	0				
<i>Herbertus aduncus</i>	0				
<i>Hypogymnia duplicata</i>	8	1.000	0.300	431,400	132,400 - 730,400
<i>Hypogymnia duplicata</i> (OW)	8	1.823	0.632	431,400	132,400 - 730,400
<i>Hypogymnia oceanica</i>	17	1.835	0.517	792,000	346,000 - 1,238,000
<i>Hypogymnia oceanica</i> (GIP)	1	0.398	0.398	10,000	0 - 30,000
<i>Hypogymnia oceanica</i> (OCR)	1	0.488	0.488	9,100	0 - 27,300
<i>Hypogymnia oceanica</i> (OW)	11	2.938	0.917	695,200	261,400 - 1,129,000
<i>Hypogymnia oceanica</i> (UMP)	4	2.752	1.766	77,800	0 - 177,600
<i>Leptogium burnetiae</i> var. <i>hirsutum</i>	0				
<i>Leptogium rivale</i>	0				
<i>Lobaria linita</i>	12	1.4	0.4	603,200	255,000 - 951,400
<i>Lobaria linita</i> (GIP)	1	0.398	0.398	10,000	0 - 30,000
<i>Lobaria linita</i> (OW)	11	2.507	0.735	593,200	245,600 - 940,800
<i>Nephroma bellum</i>	29	2.446	0.642	1,055,800	501,600 - 1,610,000
<i>Nephroma bellum</i> (GIP)	5	2.856	1.481	71,500	0 - 145,700
<i>Nephroma bellum</i> (OCR)	5	2.44	1.051	45,600	6,400 - 84,800
<i>Nephroma bellum</i> (OW)	9	2.921	1.069	691,200	185,600 - 1,196,800
<i>Nephroma bellum</i> (UMP)	10	8.755	3.731	247,400	36,600 - 458,200
<i>Nephroma occultum</i>	4	0.530	0.310	227,200	0 - 493,800
<i>Nephroma occultum</i> (OW)	3	0.917	0.562	216,900	0 - 482,700
<i>Nephroma occultum</i> (UMP)	1	0.366	0.366	10400	0 - 31,200

TAXA GROUP Species (Survey Region ³) <i>Note:</i> Results apply to NWFP area unless a smaller Survey Region ³ is specified in parenthesis.	Plots ⁵ with Detection	Percent of Survey Plots with detections within the survey area		Estimated ⁶ Number of plot-sized ⁵ areas with detections within the survey area	
		Mean	Standard Error (SE)	Mean	95% Confidence Interval (CI)
LICHENS ⁴					
<i>Platismatia lacunosa</i>	21	1.45	0.46	626,200	231,200 - 1,021,200
<i>Platismatia lacunosa</i> (CA)	1	0.626	0.626	76,900	0 - 230,700
<i>Platismatia lacunosa</i> (OCR)	18	21.209	7.638	396,200	110,800 - 681,600
<i>Platismatia lacunosa</i> (OW)	2	0.654	0.483	154,700	0 - 383,300
<i>Pseudocyphellaria perpetua</i>	1	0.020	0.020	7,400	0 - 22,200
<i>Pseudocyphellaria perpetua</i> (OCR)	1	0.396	0.396	7400	0 - 22,200
<i>Pyrrhospora quernea</i>	0				
<i>Ramalina pollinaria</i>	1	0.366	0.366	157,800	0 - 473,400
<i>Ramalina pollinaria</i> (OW)	1	0.667	0.667	157,800	0 - 473,400
<i>Ramalina thrausta</i>	15	2.225	0.784	960,100	283,100 - 1,637,100
<i>Ramalina thrausta</i> (OCR)	7	4.747	1.594	88,700	29,100 - 148,300
<i>Ramalina thrausta</i> (OW)	7	2.87	1.171	679,100	125,100 - 1,233,100
<i>Ramalina thrausta</i> (UMP)	1	6.806	6.806	192,400	0 - 577,200
<i>Usnea hesperina</i>	0				
BRYOPHYTES ⁴					
<i>Buxbaumia viridis</i>	19	1.738	0.474	750,100	341,100 - 1,159,100
<i>Buxbaumia viridis</i> (GIP)	4	4.127	2.487	103,400	0 - 228,000
<i>Buxbaumia viridis</i> (OCR)	2	2.243	1.607	41,900	0 - 101,900
<i>Buxbaumia viridis</i> (OW)	6	1.6	0.683	378,600	55,600 - 701,600
<i>Buxbaumia viridis</i> (UMP)	7	8.005	3.699	226,200	17,200 - 435,200
<i>Diplophyllum albicans</i>	25	2.82	0.69	1,218,800	622,600 - 1,815,000
<i>Diplophyllum albicans</i> (OCR)	10	8.59	2.696	160,500	59,700 - 261,300
<i>Diplophyllum albicans</i> (OW)	15	4.487	1.246	1,061,700	471,900 - 1,651,500
<i>Encalypta brevicolla</i> var. <i>crumiana</i>	0				
<i>Herbertus aduncus</i>	0				
<i>Racomitrium aquaticum</i>	6	0.670	0.280	287,200	46,200 - 528,200
<i>Racomitrium aquaticum</i> (OCR)	1	0.941	0.941	17,600	0 - 52,800
<i>Racomitrium aquaticum</i> (OW)	5	1.140	0.504	269,600	31,200 - 508,000
<i>Rhizomnium nudum</i>	24	3.18	0.77	1,372,000	706,000 - 2,038,000
<i>Rhizomnium nudum</i> (GIP)	6	2.39	0.93	59,800	13,200 - 106,400
<i>Rhizomnium nudum</i> (OW)	17	5.538	1.413	1,310,200	641,600 - 1,978,800
VERTEBRATES					
RMS surveys were not done for Vertebrates. A similar survey (The RDS Survey) was completed for the red tree vole, and results are shown in Table D.					
MOLLUSKS ⁴					
<i>Ancotrema voyanum</i> (GOBIG2K ¹ -CA)	24	7.37	1.44	171,900	104,700 - 239,100
<i>Fluminicola</i> n. sp. 1 ²	0				
<i>Fluminicola</i> n. sp. 2 ²	0				
<i>Helminthoglypta hertleini</i> (GOBIG2K ¹ -CA)	2	0.67	0.47	15,500	0 - 37,500
<i>Helminthoglypta hertleini</i> ²	1	0.511	0.511	31,900	0 - 95,700
<i>Helminthoglypta hertleini</i> (OW)	1	0.667	0.667	31,900	0 - 95,700
<i>Helminthoglypta talmadgei</i> (GOBIG2K ¹ -CA)	8	2.590	0.910	60,400	18,200 - 102,600
<i>Helminthoglypta talmadgei</i> ²	0				
<i>Helminthoglypta talmadgei</i> (CA)	8	2.590	0.910	60,400	18,200 - 102,600
<i>Hemphillia burringtoni</i> ²	1	0.510	0.510	31,900	0 - 95,700
<i>Hemphillia burringtoni</i> (OW)	1	0.667	0.667	31,900	0 - 95,700
<i>Hemphillia glandulosa</i> ²	11	2.05	0.71	128,200	40,000 - 216,400
<i>Hemphillia glandulosa</i> (OCR)	3	2.035	1.165	7,700	0 - 16,500
<i>Hemphillia glandulosa</i> (OW)	8	2.516	0.917	120,500	32,700 - 208,300
<i>Hemphillia malonei</i> ²	9	2.31	0.84	144,500	39,500 - 249,500
<i>Hemphillia malonei</i> (GIP)	1	2.258	2.258	11,400	0 - 34,200
<i>Hemphillia malonei</i> (OW)	8	2.694	1.045	129,000	28,800 - 229,200
<i>Megomphix hemphilli</i> ²	4	1.152	0.341	71,900	29,300 - 114,500
<i>Megomphix hemphilli</i> (OCR)	2	12.674	0	47,900	47,900 - 47,900

TAXA GROUP <i>Species</i> (Survey Region ³)	Plots ⁵ with Detection	Percent of Survey Plots with detections within the survey area		Estimated ⁶ Number of plot-sized ⁵ areas with detections within the survey area	
		Mean	Standard Error (SE)	Mean	95% Confidence Interval (CI)
<i>Note:</i> Results apply to NWFP area unless a smaller Survey Region ³ is specified in parenthesis.					
MOLLUSKS ⁴					
<i>Megomphix hemphilli</i> (OW)	1	0.441	0.441	21,100	0 - 63,300
<i>Megomphix hemphilli</i> (UMP)	1	0.504	0.504	2,900	0 - 8,700
<i>Monadenia churchi</i> (GOBIG2K ¹ -CA)	56	19.96	2.16	465,500	364,900 - 566,100
<i>Monadenia churchi</i> ²	0				
<i>Monadenia infumata ochromphalus</i> ²	0				
<i>Monadenia infumata ochromphalus</i> (GOBIG2K ¹ -CA)	16	4.65	1.12	108,400	56,400 - 160,400
<i>Pristiloma articum crateris</i> ²	0				
<i>Vorticifex klamathensis sinitsini</i> ²	0				

VASCULAR PLANTS⁴
RMS surveys not according to protocol (surveyed during non-flowering season), so no results for vascular plants

¹ Surveyed as part of the GOBIG2k surveys. The GOBIG2K survey studied 308 plots only in CA and used a modified project level mollusk survey protocol. Estimates are within 2,400,000 ha in California. GOBIG2K protocol is 20 min. search in highest quality area & 40 min. point searches at likely locations.

² Surveyed as part of a modified RMS Survey. The survey studied 509 plots in Oregon and Washington and it used a two visit (fall, spring) and two stage mollusk survey protocol. Estimates are within 7,500,000 ha in Oregon and Washington. Stage 1 surveyed 18 microplots and stage 2 consisted of a minimum 2-hour intuitive search.

³ Survey Regions. Please see Figure B for more information

⁵ RMS Plot Size: Hectares (ha)

- CA - Northern California
- GIP - Gifford Pinchot
- OCR - Oregon Coast Range
- UMP - Umpqua Basin
- OW - Western Oregon and Western Washington, not including GIP, OCR and UMP

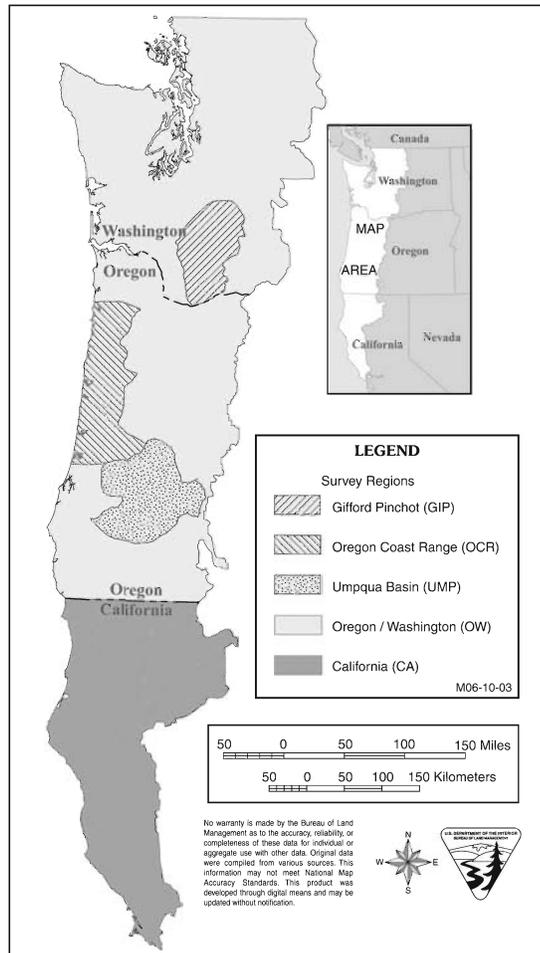
- Bryophytes 0.2
- Fungi – Epigeous 0.1
- Fungi – Hypogeous 0.01
- Lichens 0.2
- Vascular Plants 0.2
- Mollusks (RMS) 1

⁴ Number of Plots Surveyed

- Fungi 658 plots
- Bryophytes, Lichens, and Vascular Plants 750 plots
- Mollusks - RMS in OR and WA 509 plots
- Mollusks - GOBIG2K in CA 308 plots

⁶ Estimates were derived by extrapolating from the sample plots to all potential plots in each region.

Figure B. Random Multi-Species Survey Regions



Glossary

The following Glossary terms are in addition to those listed in the 2004 FSEIS and July 2006 Draft Supplement.

Biological Zone - Any area or zone designated for the purpose of describing biological processes. In this case, a subdivision of the red tree vole range delineated because of perceived differences in habitat conditions, species status, or health.

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Thanks to Paul Fyfield, Darci Rivers-Pankratz, Philip Mattson, and Kelli VanNorman

Distribution List and Document Availability on the Internet

The distribution list is essentially the same as that used for the July 2006 Draft Supplement. This Supplement is also available on the internet at: <http://re0.gov/s-m2006>.

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Appendix 9 – Annual Species Review Summaries

This appendix presents a species-by-species summary of the 2001, 2002, and 2003 Annual Species Review (ASR) rationales for removal and category changes affecting Survey and Manage species. The species-specific summaries are preceded by an explanation of the ASR process, including an explanation of the various steps and considerations referenced later in the individual species sections.

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THE REVIEW PROCESS

Overview

The following species-specific summaries document the recommendations and supporting rationale from the 2001, 2002, and 2003 Annual Species Reviews (ASRs) regarding changes to Survey and Manage. They are provided here unedited, to retain consistency with Agency file documents. Species are listed alphabetically by taxa group. The documentation for each species lists the then-*Current ROD Category*, the *Recommendation* to the Regional Interagency Executive Committee (RIEC) because of the ASR process, and the *Justification* for change, which includes an evaluation of the specific Survey and Manage Basic Criteria supporting the *Recommendation*. The evaluation of the specific criteria includes a *Rationale*, which shows how the criteria have been met. Under each species, a heading *Additional documentation* includes other information pertinent to the *Recommendation* or to the species. Finally, where only a portion of a range is being recommended for change, a heading *Remainder of species range* denotes that the species remains in the then-current ROD Category for the remaining portion of the species range. Some species were changed twice; both ASR summaries are included.

The criteria evaluated to make Category changes come from the Record of Decision and Standard and Guidelines for Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standard and Guidelines (ROD), Standard and Guidelines (S&G) pages 3-13 (USDA, USDI 2001a.) Specific page numbers from the ROD for each of the criteria addressed are listed in the *Justification* statement.

Specific species included in this summary were recommended for removal from Survey and Manage, or for a change in Management Category placement. (ASRs also considered range changes, or clarifications of the actual ranges of species. Since Survey and Manage is applied throughout the known range of each species, these clarifications are administrative and not included here except as occasional passing references.) The following briefly gives some background and describes the documentation included in the summary regarding each of the two types of changes recommended.

Evaluation of meeting S&M Basic Criteria and recommendation for removal from Survey and Manage

In order for a species to require the Survey and Manage mitigation, three Basic Criteria must be met. The Basic Criteria are (from page 3, S&Gs):

1. The species must occur within the Northwest Forest Plan area, or occur close to the NFP area and have potentially suitable habitat within the NFP area
2. The species must be closely associated with late-successional or old-growth forest (for criteria assessing this Basic Criteria, see Exhibit A in the S&M ROD S&Gs).
3. The reserve system and other Standards and Guidelines of the Northwest Forest plan do not appear to provide for a reasonable assurance of species persistence.

If a species does not meet one of the above Basic Criteria, then the species does not require S&M mitigation and is recommended for removal from Survey and Manage. In the following pages, some of the species are recommended for removal from Survey and Manage because new information indicated that they did not meet either Basic Criteria 2 and/or 3 above.

To document a recommendation for removal for not meeting Basic Criteria 2, criteria in Exhibit A in the S&M ROD S&Gs (USDA, USDI 2001a:55) are addressed in the "Rationale" section for the species. Exhibit A extensively defines how to evaluate whether Basic Criteria 2 is met or not, with four specific criteria to be addressed when making that determination.

Those four specific criteria are:

- The species is significantly more abundant in late-successional and old-growth forest than in young forest, in any part of its range.
- The species shows association with late-successional and old-growth forest (may reach highest abundance there) and the species requires habitat components that are contributed by late-successional and old-growth forest.
- The species is associated with late-successional and old-growth forest (based on field study) and is on a federal (U.S. Fish and Wildlife Service) or state threatened or endangered list; the U.S. Fish and Wildlife Service candidate species list; a BLM or Forest Service special status species list in Oregon, Washington, or California; or is listed by the States of Washington, Oregon, or California as a species of special concern or as a sensitive species.
- Field data are inadequate to measure strength of association with late-successional and old-growth forest; the species is listed as a federal (U.S. Fish and Wildlife Service) threatened and endangered species; and the FEMAT suspected, or the panel doing the final placement in the Species Review Process suspects, that it is associated with late-successional and old-growth forest.

To document a recommendation for species removal for not meeting Basic Criteria 3, four criteria listed under "Criteria Indicating Little or No Concern for Persistence" (page 5, S&M ROD S&Gs) are addressed. "Usually, most of the following criteria need to be met to indicate that a concern for persistence does not exist" (page 5, S&M ROD S&Gs).

Those specific criteria are:

1. Moderate-to-high number of likely extant sites/records.
2. High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.
3. Sites are relatively well distributed within the species range.
4. Matrix Standards and Guidelines or other elements of the Northwest Forest Plan provide a reasonable assurance of species persistence.

Each of the four criteria considered to be met are evaluated under the "Justification" section for the species, with each criteria evaluated individually.

Evaluation of Management Category changes

Throughout the summary, species are recommended to move from one Management Category to another, based on the evaluation of the criteria provided on pages 7-14 in the Standards and Guidelines section of the S&M ROD.

For each species with a Category change, the criteria listed for the specific Category are evaluated under the “Justification” section for each species. “Rationale” for meeting each of the criteria for the Category is listed in this section, indicating how each of the individual criteria for that Category is met.

Rationale documentation

The information and ASR process relies primarily on professional judgment. “The application of the criteria in the analysis process necessarily relies on the professional judgments of the panel of experts” (S&M ROD S&G page 17). The “Rationale” listed in the species-specific summary statements comes from a variety of sources in the Administrative Record and includes data as well as professional judgments. The sources of the “Rationale” include: Step 2 notes, Step 3 notes, 30-day review comments, IMG Review, ISMS data and Random Grid (RMS) Strategic Survey data. The following discusses each of these in more detail.

Step 2 notes: The Step 2 panel consisted of taxa specialists and experts (biologists, botanists, ecologists, and scientists) from the BLM, Forest Service, U.S. Fish and Wildlife service, and the Pacific Northwest Research Station (PNW). The Step 2 panel evaluated new information for each of the species, documenting their professional opinion, data, and other information in the “Step 2 notes” and entered the results into a Bayesian belief network (BBN) computer model. The BBN applied the criteria in the 2001 S&Gs to the information for that species and predicted an array of potential management outcomes. The “Rationale” often contains quotes and data from the Step 2 notes, as this information is the scientific opinion and basis for supporting the criteria.

Step 3 notes: The Step 3 panel typically consisted of 4 managers and 4 botanists/biologists, tasked with recommending the species’ category placements. The Step 3 panel reviewed the results of Step 2 (including potential management outcomes from the BBN), listened to presentations from taxa leads and taxa experts who served on the Step 2 panel, directed questions to the taxa leads and taxa experts and then entered into a period of open discussion prior to “voting” on category and range changes. Each panelist voted for what they felt was the most appropriate management category for each species, based on the most current information documented for each species and the criteria provided in the 2001 S&Gs. Voting was conducted through a secret ballot.

30-day review comments: After the Step 3 votes were cast, the taxa lead, taxa expert and Step 3 panel members were asked to review the Step 3 documentation in the Administrative record. The reviewers were asked to identify errors, conflicting information, or other evidence that should be forwarded with the Step 3 documentation to the RIEC. Reviewers were asked to respond back with their comments within 30-days. Thirty-day review comments are included in the “Rationale” and/or “Additional documentation” section under each species.

IMG Review The Intermediate Manager’s Group (IMG), comprised of managers from the BLM, Forest Service, U.S. Fish and Wildlife Service, and PNW was established by the Regional Interagency Executive Committee (RIEC) to deal with mid-level Survey and Manage issues. The IMG reviewed the documentation and administrative record for all of the species that were voted on by the Step 3 panel. The Review included an assessment of all the information previously listed here (Step 2 notes, Step 3 notes, and 30-day review comments), but also included other sources of information including Step 1 notes, previous years’ administrative record of the Annual Species Review Process, as well as electronic data and maps that had also been available to the Step 2 and 3 panelists. The IMG review was intended to ensure that the recommendations made by the Step 3 panel were supportable based on the information available. The IMG reviewed all of the information for these species, including the voting pattern and rationale of the Step 3 panelists, and developed recommendations for species placement. Pertinent information from the IMG review is listed both in the “Rationale” and “Additional documentation” sections within each species summary.

ISMS data The ISMS database contains records of all known sites for each of the S&M species. Spatial and habitat information is included in the database. The Step 2 notes document much of the information relevant to an assessment of species category placement. However, in some cases, additional information found in ISMS and associated spatial maps (including NWFP land allocations) is listed in the “Rationale” or “Additional documentation” sections.

Random Grid Strategic Survey Data: Random Multi-Species Survey information (Chapter 3&4 and Table E) is included in the summaries as “Random Grid Strategic Surveys”. These surveys have been conducted since 1999, having collected data from a stratified random sample of a grid overlaid on the landscape across the Northwest Forest Plan area in Washington, Oregon, and California. The objective of random grid strategic surveys has been to provide probabilistic estimates of species abundance and distribution relative to land use allocations and late-successional and old-growth forest (LSOG) habitat versus non-LSOG habitat. By the 2003 ASR, random grid strategic surveys had been completed for lichens and some mollusk species. During other ASR years and for other species, random grid surveys were in progress and partial data were considered when they provided sufficient evidence that a change in management may have been warranted.

Additional documentation

This section contains other pertinent information regarding the “Recommendation,” as well as other important information from the administrative record. This includes information from the Step 2 worksheets, Step 3 notes, 30-day review, and IMG review.

BRYOPHYTES

SPECIES: *Buxbaumia viridis*

2001 ROD Category D

ASR: 2001

RECOMMENDATION (OR/WA): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci).

Rationale: Step 2 Notes, ISMS data summary table, and ISMS maps document that there are 639 known sites, 538 are on Federal land, 637 are from OR/WA, and two known sites are from CA. There has been an increase of 194 known sites since last ASR. In addition, 3 of the Step 3 panelists noted this criterion as part of their *Rationale* for voting to remove the species in OR/WA.

Criterion 2: High proportion of sites and habitats in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii).

Rationale: The ISMS table provided with Step 2 notes indicates that there are 213 known sites out of 639 in protected land allocations (33%). Both the 2001 and the 2000 Step 2 notes document “no significant change” from previous ASR on all questions related to habitat and potential habitat. The 2001 Step 2 notes state that the species is found in both young stands as well as late successional stands (80 years old and older). Two of the Step 3 panelists noted this criterion in their *Rationale* for voting to remove the species. Based on the ecological amplitude of the species, the rate of discovery of new known sites during

pre-disturbance surveys since the last ASR, and the number of known sites found in reserves even though most surveys were conducted in the matrix, the IMG determined that there is a high proportion of habitat in reserves and that there is a high probability that the habitat is occupied.

Criterion 3: Sites are relatively well distributed within the species range (2ciii).

Rationale: Step 2 notes state “species is well distributed in OR and WA.” In addition, 3 of the Step 3 panelists noted this criterion in their *Rationale* for voting to remove the species in OR/WA.

SPECIES: *Buxbaumia viridis*

2001 ROD Category D

ASR: 2001

RECOMMENDATION (CA): Change to Category E

JUSTIFICATION: All criteria for Category E are met. Change in Category is based on lack of knowledge of association with LSOG and the rarity of the species in this portion of the range. Specific criteria for Category E are (page 12, S&Gs):

Criterion 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: Low number of likely extant sites/records on federal lands (two known sites from ISMS map documents two known sites in California both of which are on federal land). In addition, 4 of 5 Step 3 panelists noted the species as rare in California and 3 of the 5 Step 3 panelists noted that there are a “low number of likely extant sites/records in federal lands in California.”

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: Step 2 notes that state, “it has been found in non-late-successional (young) stands as well as late-successional (80+) stands.” In addition, 3 of the Step 3 panelists noted that there was insufficient information to determine basic criteria as part of their *Rationale* for voting for a change to Category E.

Additional documentation

Seven of the 8 Step 3 panelists voted to remove this species in OR and WA. The IMG reviewed the Step 2 and 3 information and recommended that the species be removed from S&M mitigation in OR and WA. The IMG recommended removal based on a moderate-to-high number of likely extant sites, a likely high proportion of habitat occupied within reserves, and that within OR and WA the species is well distributed.

Three of 5 Step 3 panelists voted to move the species to Category E in CA. The IMG reviewed the step 2 and 3 information and concurred with the information and *Rationale* for this category change. Specifically, the IMG acknowledged that there are a low number of sites in CA, and that there is insufficient information to determine basic S&M criteria.

There were no conflicts recorded by the Step 2 panelists during their 30-day review of Step 3 recommendations.

SPECIES: *Diplophyllum albicans*

ROD Category: F

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. Two of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The two Basic Criteria not met are:

Criterion 2: The species must be closely associated with late-successional or old-growth forest.

Current information indicates that *Diplophyllum albicans* is not closely associated with late-successional and old-growth forest. The species is not associated with LSOG forest or LSOG forest components.

Rationale: Step 2 Worksheet notes discuss that *Diplophyllum albicans* has been found in LSOG, but has also been found in north-facing open talus and west-facing road cuts not associated with OG forest. There are numerous sites along the coast where higher moisture is a factor but sites are not necessarily located in LSOG stands. At least one administrative unit (Coos Bay BLM) has been looking in young stands but none have been found.

From ISMS records there are 8 sites out of 78 with stand age data – 6 of which are in stands 80+ years in age. The remaining 2 sites were in stands of 35 and 40 years of age. It is uncertain whether these data are representative of all locations. This is a non-predisturbance survey species, is not routinely looked for, and as a consequence, may be overlooked and under-collected. The substrate data from voucher records indicates that the species is tied to moist, cool microsites on both organic and inorganic substrates, including decaying logs, trunks of living trees, cliff faces, outcrop crevices, stream banks and roadside and trail soil banks. It has also been found in a bog. As it seems to be found abundantly on inorganic substrates, it doesn't seem necessarily to require LSOG habitat components.

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Three of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: There are 117 sites for this species: 78 sites in ISMS, plus additional sites from other sources (Step 2 worksheet). Sites are well distributed, and the Step 2 panel believed that loss of some sites would not significantly affect persistence. There are 21 detections from Random Grid Surveys. Though data has not yet been statistically analyzed, this is a high number of detections in this unbiased sampling design.

Criterion 2: High proportion of sites and "habitats" in reserve land allocations, or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists noted that 35 of 78 sites, approximately 45% (ISMS database), are in LSR and Congressionally-withdrawn lands. Although it was unclear to the Step 2 panelists whether this percent of occupied sites in LSR, in and of itself, is sufficient to provide reasonable assurance of species persistence they did state that the Matrix downed log provision and the green tree retention standard together contribute to the persistence of the species (Step 2, Executive Summary and Condition Category 3, #11).

Criterion 3. Sites are relatively well distributed within the species range.

Rationale: Step 2 documents that this species is widely distributed, and is found in five provinces within western Washington and western Oregon north of the Klamath Province. It appears to be well distributed throughout the Coast Range and along the western slope of the Cascades in Washington and Oregon. Sites are evenly distributed throughout its potential habitat.

Additional documentation

Surveys are practical for this species: it is a perennial species, visible year-round; it can be identified in the field with a hand lens; field personnel can identify it because it has a distinctive morphological trait; surveys can be completed in one season, with credible survey methods.

The Step 3 panel voted unanimously to remove *Diplophyllum albicans* from the Survey and Manage list on the basis of both doubt about clear LSOG association, and a lack of concern for persistence. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 unanimous vote. IMG agreed with the unanimous vote of the Step 3 panel and recommended removal of this species from Survey and Manage.

SPECIES: *Encalypta brevicolla* var. *crumiana*

ROD Category: B

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; manage known sites until special status species review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M is not met (page 3, S&Gs). The Basic Criterion which is not met is:

Criterion 2: The species must be closely associated with late-successional or old-growth forest.

Current information indicates that *Encalypta brevicolla* var. *crumiana* is not closely associated with late-successional and old-growth forest. The species is not associated with LSOG forest or LSOG forest components.

Rationale: Based on the results of recent purposive surveys, *Encalypta brevicolla* var. *crumiana* does not appear to be associated with LSOG forest. This species is known from only two locations. At its Mt Rainier location, LSOG association is unknown. The Squirrel Peak location in SW OR was relocated as part of a 2002 purposive survey. The population is confined to a north-facing rock outcrop on a low ridge. There is no immediate tree cover at the site. The forest is well below (ca 10 m) the actual site. The rock outcrop extends down into the timber. The part of the outcrop that is being shaded by trees was surveyed for *Encalypta* without success. This species, as with the genus in general, is associated with xeric, open, rocky substrates.

Additional documentation

A concern for persistence remains for this species. In answering if the totality of the Northwest Forest Plan provides for a reasonable assurance of persistence, the Step 2 panelists noted that provisions of the NFP do not appear to provide any specific protection for suitable habitat (i.e. rock outcrops) for this species.

Surveys are not practical for this species: the distinctive characteristics of this species are subtle, and only a few experts can positively identify this species; this species cannot be identified in the field, it must be identified using a microscope; some potential habitat on rock outcrops could pose safety risks to surveyors.

The Step 3 panel voted unanimously to remove *Encalypta brevicolla* var. *crumiana* from the Survey and Manage list on the basis of doubt about clear LSOG association. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and Step 3 unanimous vote. IMG agreed with the Step 3 panel unanimous vote and recommended removal of this species from Survey and Manage.

SPECIES: *Herbertus aduncus*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E.

JUSTIFICATION: All criteria for Category E are met. Change in Category is based on lack of knowledge of association with LSOG. Species is still considered rare (no change). Specific criteria for Category E are (page 12, S&Gs):

Criterion 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: Step 2 records indicate there are 7 known sites, 4 of which occur on federal land. In addition, 8 of the Step 3 panelists noted that the species is rare.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: Step 2 panel notes state that there are not enough populations to determine habitat association. In addition, all 8 of the Step 3 panelists noted that there is insufficient information, when noting *Rationale* for their recommendation to move the species to Category E.

Additional documentation

Seven of the 8 Step 3 panelists voted to move this species to Category E. One other panelist split their vote 50% for Category E and 50% for Category B. The IMG reviewed the Step 2 and 3 information and agreed with the *Rationale* for species placement into Category E. Specifically they noted that there are a low number of likely extant sites, and there is insufficient information to determine if the species is closely associated with LSOG.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Racomitrium aquaticum*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E.

JUSTIFICATION: All criteria for Category E are met. Change in Category is based on lack of knowledge of association with LSOG. Species is still considered rare (no change). Specific criteria for Category E are (page 12, S&Gs):

Criterion 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: Step 2 records indicate 25 known sites, most of which occur on federal land, plus 5 sites not yet in ISMS (1 confirmed, 4 unconfirmed). In addition, all 8 of the Step 3 panelists noted that this species is rare, when listing their *Rationale* for recommending placement of this species into Category E.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: Step 2 panel notes state that there is “not enough information on LSOG association”. In addition, all 8 of the Step 3 panelists noted that there is insufficient information, when denoting their *Rationale* for their recommendation to place the species in Category E.

Additional documentation

Seven of the 8 Step 3 panelists voted to move this species to Category E. One other panelist split their vote, with 20% for Category E and 80% for Category B. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panel’s *Rationale* and recommendation to move this species to a Category E. They noted that the species is rare, based on the low number

of likely extant sites, and that there is insufficient information to determine if the species is closely associated with LSOG.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Rhizomnium nudum*

ROD Category: B

ASR: 2002

RECOMMENDATION (WA): Remove from S&M mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species in Washington. One of the 3 Basic Criteria for S&M is not met (page 3, S&Gs). The Basic Criterion which is not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Three of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: There are a total of 182 known sites all but 16 of which are in Washington. There are 17 detections from Random Grid Surveys which is a high number of detections in this unbiased sampling design indicating a relatively high number of estimated known sites (Step 2, Condition Category 3, #1 and Section B).

Criterion 2: High proportion of sites and “habitats” in reserve land allocations, or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Overall, in Washington, there are a high number of sites in LSR (64 out of 133 ISMS sites) and it is anticipated that the amount of habitat in reserves is also high. On the Olympic Peninsula all 27 of the additional sites not yet incorporated in the ISMS database are located in the National Park, which is considered equivalent to a reserve allocation (Step 2, Condition Category 3, #9).

Criterion 3: Sites are relatively well distributed within the species range.

Rationale: The species is well distributed in the west and east Cascades and the Olympic Peninsula in Washington. It is fairly well distributed within its habitat in Washington (Step 2, Condition Category 3, #5 & 6). Distribution is sufficient to permit normal biological function and species interactions.

Additional documentation

The majority of Step 3 panelists (7 of 8) voted to remove the species from Survey and Manage in Washington. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 majority vote. IMG agreed with the Step 3 panel majority vote and recommended removal of this species from Survey and Manage in this portion of the species range. No Range Change was noted.

Remainder of the species’ range

There was no change in the species management status in the remaining part of the species range (Oregon). The species remains in Category B in Oregon.

FUNGI

SPECIES: *Albatrellus flettii*

ROD Category: B

ASR: 2001

RECOMMENDATION (OR): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* There are 67 sites, with 47 extant; from Step 2, taxa specialists’ notes. Nineteen of these are new sites since last ASR. Expert opinion in the Step 2 notes concludes a “moderate-to-high number of likely extant sites/records” for this species in Oregon (page 17, Step 2 notes). Step 2 specialists also note that strategic surveys have been recently conducted and “percentage-wise, a significant number of new sites have been found”. Six of the Step 3 panelists noted this criterion when documenting *Rationale* for their Step 3 votes.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From the Step 2 specialists’ notes, 47 out of 57 known sites are in protected Federal land allocations (82%). Specialists also note their professional agreement with this criterion for OR (page 17, Step 2 notes). In addition, 4 of the Step 3 panelists noted this criterion when documenting *Rationale* supporting their Step 3 votes.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* From Step 2 notes the species is “evenly distributed OR & WA Cascades, uncommon in CA” also “relatively well distributed within the species range”. In addition, 6 of the Step 3 panelists noted this criterion in documenting the *Rationale* for their Step 3 votes.

Additional documentation

Seven out of the 8 Step 3 panelists voted to remove this species from S&M mitigation in OR. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists’ recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation. There is not a persistence concern, as there are a high number of extant sites, a high proportion of habitat within reserves, and the species is well distributed.

Step 2 specialists noted that the species is “not a concern in OR Cascade Range” regarding the concern for persistence of the species. There are no comments in the taxa specialists’ 30-day review response to the Step 3 panelists recommendation to remove this species in OR.

Remainder of species’ range

In the remaining part of the species range (CA and WA) no change in species category was noted. Species continues to be a Category B in those locations.

SPECIES: *Bondarzewia mesenterica* (*Bondarzewia montana*) **ROD Category:** B ASR: 2001

RECOMMENDATION (OR): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* There are 122 total sites, 45 new since last assessment. Of these, 115 are likely extant sites. Step 2 notes also indicate a “moderate-to-high number of likely extant sites/records” for this species in Oregon (page 17). Step 2 specialists also note that strategic surveys have been recently conducted and “percentage-wise, a significant number of new sites have been found”. Six of the Step 3 panelists noted this criterion in the documentation of their *Rationale* for their Step 3 votes.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* Step 2 notes 41 out of 102 sites on Federal land are within protected land allocations (40%). Step 2 specialists also note their professional agreement with this criterion for OR (page 17, Step 2 notes). In addition, Step 2 notes state that the species is widespread in the Northwest Forest Plan area, the habitat is relatively common (mixed conifer plant associations), the habitat association of the species is broad and the amount of suspected habitat in protected land allocations is high. Seven of the Step 3 panelists noted this criterion in documenting their *Rationale* for their Step 3 votes.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 specialists note that species is “widespread within the suspected range”, and that “sites are relatively well distributed within the species range” (page 17). Seven of the Step 3 panelists noted this criterion as *Rationale* for their Step 3 vote.

Additional documentation

Seven out of 8 Step 3 panelists voted to remove the species in OR. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panel recommendation to remove this species in OR. The IMG concluded that the species should be removed as there are a moderate-to-high number of sites in OR, there are a high proportion of suitable habitat in reserves that is likely occupied, and that the species is well distributed in this portion of the range. The IMG also acknowledged that Step 2 specialists notation that the species is “less of a concern in OR” regarding the concern for persistence of the species

The only 30-day comment received for this species came from a Step 2 panelist and states “Persistence seems to be of concern in CA and WA, and less of a concern in OR. The vote to remove in all geographic areas conflicts with data provided in Step 2. The majority of votes in the B category for WA and CA is consistent with data presented in Step 2.” The IMG recommendation to remove only in OR conforms to this expert opinion.

Remainder of species’ range

In the remaining part of the species range (CA and WA) no change in species category was noted. Species continues to be a Category B in those locations.

SPECIES: *Cantharellus subalbidus*

ROD Category: D

ASR: 2001

RECOMMENDATION (OR): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* Step 2 notes state that there are 199 total sites with 109 sites new since the last assessment. Of these, 180 are likely extant. From Step 2 notes, “Number of sites has doubled in 7 years. It’s as common as previously thought and is now documented as such”, also “More common in OR than previously thought...”. The number of sites and the taxa specialists’ assessment of them is a significant change from the last assessment. Seven of the Step 3 panelists noted this criterion when listing *Rationale* for their Step 3 votes.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From Step 2 notes, 68 out of 164 Federal sites are within protected land allocations (42%). Step 2 specialists also note “no change (high)” for the estimated proportion of potential habitat on Federal lands within protected land allocations. Seven of the Step 3 panelists noted this criterion when documenting *Rationale* for their Step 3 votes.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 specialists note no change from last assessment: that the species still is considered widespread (page 2 of Step 2 notes). Seven of the Step 3 panelists noted this criterion when documenting *Rationale* for their Step 3 votes.

Additional documentation

All 8 of the Step 3 panelists voted to remove this species from S&M mitigation in OR. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists’ recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation. There is not a persistence concern, as there are a high number of extant sites, a high proportion of habitat within reserves, and the species is well distributed.

There are no comments in the taxa specialists’ 30-day review response to the Step 3 panelists recommendation to remove this species from S&M mitigation in OR. On page 15 of the Step 2 notes, the specialists indicated that all three criteria listed above were met in OR, indicating that they concluded that there is little to no concern for persistence for this species.

Remainder of species’ range

In the remaining part of the species range (CA and WA) no change in species category was noted. Species continues to be a Category D in those locations.

SPECIES: *Chromosera cyanophylla***ROD Category:** B**ASR:** 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that the “species found in many seral stages, young and old” (page 7, Step 2 notes), and that the species is “not dependent on LSOG; associated with LSOG and non-LSOG” (page 16, Step 2 notes). All eight Step 3 panelists noted that this criterion was not met, when documenting *Rationale* for their removing recommendation. In addition, 7 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 5 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”.

Additional documentation

All 8 Step 3 panelists voted to remove the species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panel recommendation to remove the species from S&M based on lack of LSOG association.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above. One additional 30-day review comment from the taxa expert (received separately in response to a specific request for clarification on LSOG association) stated: “(Step 2) records and experience indicate that this species is found in both LSOG and non-LSOG; the substrate is litter, which is found in both LSOG and non-LSOG. More than half of the more recent collections have been from non-LSOG.” IMG did not consider this comment in conflict with the conclusion that the species was not closely associated with LSOG because the species is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its, the species does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest.

SPECIES: *Clavariadelphus truncatus***ROD Category:** B**ASR:** 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category D; also range extension north to the Canadian border and east in the Cascades province in California.

JUSTIFICATION: All criteria for Category D met. Change in Category is due to an increased number of known sites, moving the species from rare to uncommon. Other factors (still meets the S&M criteria and is considered not practical to survey for) remain unchanged. Specific criterion for assigning a species to Category D (page 11, S&Gs) is:

Criterion 1: Meets the same criteria as Category C, except that pre-disturbance surveys are not practical or are not necessary to meet objectives for species persistence because inadvertent loss of some undiscovered sites would not change the level of rarity (7b).

The species moved from rare to uncommon because data indicates one or more of the 5 criteria for uncommon status listed on page 10, S&Gs are met. Criteria specifically met are:

1. A higher number of likely extant sites/records does not indicate rarity of the species (7bi).

Rationale: Step 2 notes indicate 120 total sites, 54 new since last ASR, 99 considered extant. Five of the Step 3 panelists noted that the species is considered uncommon as opposed to rare when listing *Rationale* behind their Step 3 votes. IMG concluded that this criterion is satisfied primarily because of the number of new sites discovered since the last ASR and the rate of detection where surveys were conducted in Jackson County.

2. Moderate to high likelihood of sites in reserves (7bv).

Rationale: Step 2 notes indicate that 42 out of 97 sites on Federal land are located within protected land allocations (43%). Habitat was described by Step 2 as mixed conifer forest or forest in moderate elevation band and as somewhat common. The estimated proportion of potential habitat on Federal lands within protected land allocations was described as “high” by Step 2. No Step 3 panelists noted this criterion when listing *Rationale* behind their Step 3 votes. IMG concluded that there is a moderate to high likelihood of sites in reserves based primarily on the proportion of known sites currently in reserves and the high proportion of potential habitat estimated to be on Federal land in protected land allocations.

In addition to meeting the uncommon criteria, placement in Category D requires pre-disturbance surveys to be impractical or not needed. Pre-disturbance surveys were considered impractical for this species prior to the 2001 ASR. Step 2 noted that pre-disturbance surveys are still impractical. Six of the Step 3 panelists noted their concurrence with this criterion when listing *Rationale* supporting their Step 3 votes. IMG concurred with this information and expert opinion that pre-disturbance surveys are still impractical.

Additional documentation

Voting patterns from the Step 3 panel led to no clear recommendation. The IMG reviewed the step 2 and 3 information and recommended that this species move to a Category D. This recommended change is based on a large increase in the number of known sites where this species was specifically surveyed for, as well as a high number of known sites within reserve land allocations, and a high proportion of potential habitat located within reserves.

The 30-day comments indicated that the Step 2 panel believes there is little concern for persistence in Jackson Co. OR, (and could be removed there) but that the species is rare outside this County, and should remain in Category B. The IMG recommended that the species should move from Category B to Category D throughout its range based on the number of sites found for these species where surveys were actually conducted. The IMG determined that more sites were discovered in Jackson Co., OR because more surveys were conducted there and if surveys were conducted in other portions of the species range the species would be found to be as abundant as in Jackson Co. For this reason, they concluded that the species is not rare elsewhere and should be considered uncommon throughout its range. In addition, this recommended Category change will mean that strategic surveys are still required, and high-priority sites will be managed.

Range change noted

An extension of the species range was noted in the Step 2 notes, due to new information (biological range change: Slight extension of distribution north to Canadian border (although old sites located there), and east in Cascade Province in CA). Recommendations and documentation above pertains to entire range, including this newly discovered portion.

SPECIES: *Collybia bakerensis*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category F; also extend range north to the Canadian border and east in the Cascades province of California.

JUSTIFICATION: All criteria for Category F met. Change in Category is based on lack of knowledge of association with LSOG; and additional sites found for this species move it from rare to uncommon. Specific criteria for Category F are (page 13, S&Gs):

Criterion 1: The species is uncommon and the number of likely extant sites/records and survey information does not indicate rarity (4b, 4bi).

Rationale: From Step 2 notes, 124 total sites, 109 new since last ASR, with 114 likely extant. In addition, Step 2 described the species as abundant and the suspected range of the species as widespread. Six of the Step 3 panelists noted that this species is “uncommon” as opposed to “rare” when documenting their *Rationale* for their Step 3 vote.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria (including whether there is a concern for persistence) are met, or to determine what management is needed for reasonable assurance of species persistence (3ai, 3aii).

Rationale: Step 2 notes indicate that species is “not dependent on LSOG; associated with LSOG and non-LSOG; associated with coarse woody debris legacy.” Five Step 3 panelists noted that information on this species is insufficient, when the panelists listed *Rationale* supporting their Step 3 votes.

Additional documentation

Step 3 voting patterns were unclear. The IMG reviewed the Step 2 and 3 information and recommended that the species is uncommon, and that there is not enough information known to place this species in any of the management categories. They based this recommendation on the moderate-to-high number of sites as stated by the Step 2 panelists, and that there is insufficient information to determine if the species is closely associated with LSOG.

There were no 30-day comments regarding the Step 3 voting or Step 3 comments. One additional 30-day review comment from the taxa expert (received separately in response to a specific request for clarification on LSOG association) stated, “Our (Step 2) records and experience indicate that this species is found in both LSOG and non-LSOG; the substrate is litter, which is found in both LSOG and non-LSOG.” IMG did not feel that this comment provided any significant clarification on LSOG association and concluded that available information was not sufficient to determine if the species was closely associated with LSOG.

Range change noted

An extension of the species range was noted (Step 2 notes), due to new information (biological range change: Slight extension of distribution north to Canadian border (although old sites located there), and east in Cascade Province in CA). Recommendations and documentation above pertains to entire range, including this newly discovered portion.

SPECIES: *Cordyceps capitata*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state that “species found in many seral stages, young and old” (pages 9, 15, Step 2 notes). Based on the Step 2 notes and taxa lead and expert presentation to the Step 3 panel, all eight Step 3 panelists noted that this criterion was not met when listing *Rationale* supporting their Step 3 votes. In addition, 7 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 3 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”. The species is not closely associated with late-

successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists' recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

Concern for persistence was not addressed by the Step 3 panel so known sites will be managed for protection while the species is reviewed for inclusion on the agencies' special status/sensitive species lists.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Craterellus tubaeformis* (*Cantharellus tubaeformis*) ROD Category: D ASR: 2001

RECOMMENDATION (OR): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding "little to no concern for persistence" (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* From the Step 2 notes, there are 201 total sites with 73 new since last ASR. Of these, 187 are likely extant. Step 2 specialists also note that the species is "More common than previously thought and more documented", also "More common in OR than previously thought..." Seven of the Step 3 panelists noted this criterion in their *Rationale* for their Step 3 vote.

Criterion 2: High proportion of sites and "habitats" are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From Step 2 notes, 82 out of 156 Federal sites are within protected land allocations (52%). Step 2 specialists also note "no change (high)" for the estimated proportion of potential habitat on Federal lands within protected land allocations. Six of the Step 3 panelists noted this criterion in their *Rationale* for their Step 3 vote.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 specialists note no change from last assessment: that the species still is considered widespread (page 2 of Step 2 notes). Seven of the Step 3 panelists noted this criterion as *Rationale* for their Step 3 vote.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation in OR. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists' recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation. There is not a persistence concern, as there are a high number of extant sites, a high proportion of habitat within reserves, and the species is well distributed.

There are no comments in the taxa specialists' 30-day review response to the Step 3 panelists recommendation to remove this species in OR. On page 15 of the Step 2 notes, the specialists indicated that all three criteria listed above were met in OR, indicating that they concluded that there was little to no concern for persistence for this species.

Remainder of species' range

In the remaining part of the species range (CA and WA) no change in species category was noted. Species continues to be a Category D in those locations.

SPECIES: *Craterellus tubaeformis* (*Cantharellus tubaeformis*) ROD Category DASR: 2003

RECOMMENDATION (WA and CA): Remove from S&M Mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Two of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: The Step 2 worksheets documented a total of 103 sites in Washington and California, 41 of these were detected in random grid strategic surveys (35 in Washington and 6 in California). Pre-disturbance surveys for this species are not considered practical and for this reason it has not been regularly documented by field units in preparation for proposed habitat disturbing activities. Step 2 documented that 103 known sites were low-to-moderate without considering estimates from the random grid detections. Though random grid data for fungi have not been statistically analyzed, 41 detections is a high number in this unbiased sampling design and one of the highest rates of detection for S&M species located on the random grid. Based on this rate of detection on the random grid, IMG concluded that there were a moderate-to-high number of sites for this species.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented 58 sites (58%) in reserve land allocations. Although Step 2 stated that they were uncertain whether there is a high proportion of sites and habitat in reserves, IMG felt there was limited risk in concluding that the proportion of sites and habitat was high when the proportion of sites in reserves (58%) was considered along with the rate of detection on the random grid.

Additional documentation

Two out of six Step 3 panelists voted to remove *Craterellus tubaeformis* from Survey and Manage. They felt that there was no concern for persistence based on a moderate-to-high number of likely extant sites and a high proportion of sites and habitat in reserve land allocations. The Oregon portion of the species range was removed from Survey and Manage in the 2001 ASR because there was no concern for persistence. That conclusion was based on a moderate-to-high number of likely extant sites, a high proportion of sites and habitats in reserve land allocations, and sites that were relatively well-distributed. The decision to remove *Craterellus tubaeformis* in Washington and California is consistent with the data from the Oregon

portion of the species range (that is, when the entire range of the species in the NWFP area is considered).

SPECIES: *Galerina atkinsoniana*

ROD Category B

ASR: 2003

RECOMMENDATION (ENTIRE RANGE): Remove from S&M Mitigation and document range extension.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Two of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: The Step 2 worksheets documented a total of 83 sites in the NWFP area, 41 of these were detected in random grid strategic surveys. Pre-disturbance surveys for this species are not considered practical and for this reason it has not been regularly documented by field units in preparation for proposed habitat disturbing activities. Step 2 documented that 83 known sites were moderate without considering estimates from the random grid detections. Though random grid data for fungi have not been statistically analyzed, 41 detections is a high number in this unbiased sampling design and one of the highest rates of detection for S&M species located on the random grid. Based on this rate of detection on the random grid, IMG concluded that there were a moderate-to-high number of sites for this species.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented 59 sites out of 83 (71%) in reserve land allocations. Although Step 2 stated that they were uncertain whether there is a high proportion of sites and habitat in reserves, IMG felt there was limited risk in concluding that the proportion of sites and habitat was high when the proportion of sites in reserves (71%) was considered along with the rate of detection on the random grid.

Additional documentation

One out of seven Step 3 panelists voted to remove *Galerina atkinsoniana* from Survey and Manage. They felt that there was no concern for persistence based on a moderate-to-high number of likely extant sites and a high proportion of sites and habitat in reserve land allocations.

Range change noted

Step 2 panelists documented that new records have extended the range of this species to the Washington Eastern Cascades physiographic province (Step 2 Executive Summary). Seven of 7 Step 3 panelists voted to extend the species range to include the Washington Eastern Cascades physiographic province and IMG recommended recognizing the range change even though they recommended removing the species from S&M.

SPECIES: *Galerina vittaeformis***ROD Category:** B**ASR:** 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state “species found in many seral stages, young and old” (page 7&14, Step 2 notes). Based on the Step 2 notes and taxa lead and expert presentation to the Step 3 panel, seven of the Step 3 panelists noted this criterion was not met, when listing their *Rationale* for their Step 3 vote. In addition, 5 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 2 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”. The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists’ recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

Concern for persistence was not addressed by the Step 3 panel so known sites will be managed for protection while the species is reviewed for inclusion on the agencies’ special status/sensitive species lists.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Gomphus clavatus***ROD Category:** B**ASR:** 2002

RECOMMENDATION (ENTIRE RANGE): Change to Category F

JUSTIFICATION: All criteria for Category F are met. Change in category is justified because of an increased number of new sites, changing the status of the species from rare to uncommon. In addition, new information has increased uncertainty about whether the species is closely associated with late successional and old-growth forests. Specific criteria for assigning a species to Category F (page 13, S&Gs) are:

Criterion 1: The species is uncommon and the number of likely extant sites/records and survey information does not indicate rarity.

According to ROD guidelines (p.10, S&G) “uncommon” may be based on one or more of five criteria. New information indicates this species meets two of the five uncommon criteria: a “higher number of likely extant sites” and “less restricted distribution pattern relative to range or potential habitat”.

(1) “Higher number of likely extant sites...”:

Rationale: ISMS data, Step 2 documentation, and IMG review notes indicate that there are 97 records in ISMS, (47 new since 1999) including 2 new records from Random Grid surveys.

These increasing numbers indicate that the species is uncommon. The Step 2 Panel noted that 31 of the 97 ISMS records are historic and no information is available to confirm that they are still extant. However, even if all historic locations no longer exist, the remaining 66 records from pre-disturbance and random grid surveys indicate that the species is less rare than previously believed. This conclusion is based primarily on the discovery of 47 new sites, indicating uncommon status.

It is likely that numbers of S&M fungi locations will be consistently underestimated across the landscape because what is seen above ground may be less (or considerably less) than what actually occurs below ground. As documented in the Step 2 worksheet, this species may not fruit annually or predictably. Neither are population estimates possible because records reflect only species occurrence. For these reasons, an increase of 47 site records (48%) was considered to be substantial (Step 3 panel notes, stage 3 and 4).

(2) Less restricted distribution pattern relative to range or potential habitat...":

Rationale: The Step 2 Panel noted that ISMS records for this species are distributed across 10 out of 12 physiographic provinces in the NWFP area extending from Washington through Oregon to California, and from the Cascades to the Coast Range and the Olympic Peninsula, indicating that this species is fairly well-distributed. In the opinion of the taxa lead, expert, and team, site geographic distribution was believed to be a more demonstrable criterion than site numbers to illustrate uncommon status.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met, or to determine what management is needed for reasonable assurance of species persistence.

Rationale: Step 2 notes citing recent field data, and IMG ASR comments relating to Step 2 notes document that new information contributes to uncertainty about LSOG association. Field data cited in Step 2 indicate almost equal presence of *Gomphus clavatus* in both LSOG and non-LSOG habitats and there is no information available on LSOG components.

A majority of Step 3 votes (5 of 8) indicate that both the increase in numbers of new sites, and an increase in uncertainty about close LSOG association contributed to more ambiguity (Category F) but did not constitute sufficient evidence to remove the species from Survey and Manage.

Additional documentation

Five of 8 Step 3 panelists voted to change the Category from B to F. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 majority vote. IMG agreed with the majority vote of the Step 3 panel and recommended Category F for this species. No Range Change was noted.

SPECIES: *Gomphus kauffmanii*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E

JUSTIFICATION: All criteria for Category E met. Change in Category is based on lack of knowledge of association with LSOG; Rarity remains the same. Specific criteria for Category E are (page 12, S&Gs):

Criterion 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: From Step 2 notes, there are 54 total sites, with 5 new since last ASR. Twenty-four sites are likely extant. Five of the Step 3 panelists noted that this species is "rare".

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met, or to determine what management is needed for reasonable assurance of species persistence (3ai, 3aii).

Rationale: Step 2 notes indicate that species is “found in late-successional forest, but also often in younger forest lacking late-successional legacy, without a clear dominance of occurrence in older stands”. On page 15 of the Step 2 notes, they state that the species is “closely associated with late-successional or old-growth forest”. However, during the Step 2 presentation to the Step 3 panel prior to the Step 3 panel voting, doubt about this LSOG association was introduced. Step 3 panelists noted in their voting *Rationale* that “substantial debate around whether this is LSOG or not...Insufficient info to LSOG association...LSOG association unclear...need strategic surveys to determine LSOG association.” The taxa lead and expert provided information to the panelists that raised doubts about the LSOG association of this species. The Step 3 discussion notes show that the taxa expert “indicated that the species is not clearly associated with LSOG”. Seven of the 8 panelists voted that there was insufficient information to determine if the S&M Basic Criteria were met or not, and that information on this species is not sufficient to determine if the species should be placed in Categories A-D.

Additional documentation

Step 3 voting patterns indicated that the majority of panelists (7 out of 8), thought there was not sufficient information regarding S&M basic criteria, and that 5 out of 8 of the panelists voted the species as rare. IMG reviewed the information and recommended that the species was borderline rare/uncommon, but due to the low number of extant sites on federal land should be placed in rare category. The IMG also concurred with the Step 3 panel that sufficient information did not exist to place the species in categories A-D, and concluded that the species should be placed in Category E. By moving from a Category B to Category E, the level of protection for the species will remain unchanged: all known sites will be managed for protection, and strategic surveys (already underway) are required. There were no 30-day comments from the Step 2 panel regarding the Step 3 voting or recommendation above, indicating no disagreement with the overall recommendation above, including the LSOG association discussion.

SPECIES: *Gymnopilus punctifolius*

ROD Category: B

ASR: 2001

RECOMMENDATION (OR/WA): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* There are 85 total sites, with 23 new since last ASR. Of these, 55 sites are likely extant (from Step 2 notes). “Majority of sites in OR and WA; seems to be a concern only in CA”, page 13, Step 2 notes. Species is referred to by the Step 2 panel as “somewhat common”. Five of the Step 3 panelists noted this criterion for OR when listing *Rationale* for their Step 3 votes. Four of the Step 3 panelists noted this criterion for WA in support of their Step 3 votes.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii).

Rationale: From Step 2 notes, 30 out of 63 Federal sites are within protected land allocations (48%). The majority of the Step 3 panel determined that this was a high proportion of sites, as 5 of the Step 3 panelists noted this criterion in OR when documenting *Rationale* for their Step 3 votes, with 4 of the Step 3 panelists noting this criterion in WA.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 specialists note “widespread within suspected range” (page 2 of Step 2 notes), and “well distributed in OR and WA, spotty in CA”. Five of the Step 3 panelists noted this criterion for OR, when documenting the *Rationale* for their Step 3 vote, with 4 panelists noting this criterion for WA.

Additional documentation

Six of the Step 3 panelists voted to remove this species from S&M mitigation in OR, while 5 voted to remove the species in WA. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panel recommendation to remove in OR and WA. The IMG concluded that the species should be removed as there are a high number of sites within OR and WA, there are a high proportion of sites within the reserve network, and the species is well distributed within this portion of the range. They also used Step 2 panel information that stated that the “habitat (is) relatively common”, with a “broad” habitat association, “wide range”, and that the species is “somewhat common”. The Step 2 panel also noted that the “Majority of sites in OR and WA; seems to be a concern only in CA.”

The Step 2 panel appears to provide contradictory opinion about the rarity of the sites in WA, indicating on page 15 that the species is low-to-moderate in numbers, but elsewhere stating “majority of sites in OR and WA; seems to be a concern only in CA.” The IMG determined through a review of the Step 2 documentation and ISMS maps that it appears that there are equivalent numbers of sites for this species in WA and OR.

The Step 2 notes indicate, on page 15, that only 2 of the 3 criteria above are met for OR (professional opinion indicated in the notes shows second criterion above not met) with none met for WA. They do not, however, note any criteria indicating a concern for persistence for this species in those portions of the range. The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations regarding the criteria above.

Remainder of species’ range

In the remaining part of the species range (CA) no change in species category was noted. Species continues to be a Category B in those locations.

SPECIES: *Gyromitra esculenta*

ROD Category: F

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that species is “not an LSOG dependent species, found in both LSOG and younger stands” and “species not dependent on LSOG habitat, often found in non-LSOG habitat”. Eight of the Step 3 panelists noted this criterion was not met in their documentation of *Rationale* for their Step 3 votes. In addition, 8 Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and all 8 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”. The species is not closely associated with late-

successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

Additional documentation

All 8 of the Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists' recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

In the Step 2 notes, page 15, panel does not address questions regarding persistence, instead noting "N/A (not applicable) Not LSOG dependent". In a March 7, 2002 letter from the taxa expert regarding this species and questions about persistence, she notes that "given the number of sites, and the fact that both species can be found in non-LSOG, the Standards and Guidelines of the Northwest Forest Plan appear to provide for reasonable persistence of these two species." Based on this professional opinion from the taxa expert, this species will not be reviewed for inclusion in the sensitive/special status species programs, as persistence does not appear to be a concern.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Gyromitra infula*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION:The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state that the species is "not an LSOG dependent species, found in both LSOG and younger stands" and "species not dependent on LSOG habitat, often found in non-LSOG habitat". All 8 Step 3 panelists noted that this criterion was not met when documenting their *Rationale* for their Step 3 votes. In addition, 8 of the Step 3 panelists noted that the species "is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range" and all 8 noted that the species "does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest". The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

Additional documentation

All 8 of the Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists' recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

In the Step 2 notes, page 15, panel does not address issues regarding persistence, instead noting "N/A (not applicable) Not LSOG dependent", so they never assessed whether persistence was an issue or not. The species' known sites will be managed for protection while the species is reviewed for inclusion on the agencies' special status/sensitive species lists.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Gyromitra melaleucoides*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state that the species is “not an LSOG dependent species, found in both LSOG and younger stands” and “species not dependent on LSOG habitat, often found in non-LSOG habitat”. Eight of the Step 3 panelists noted this criterion was not met when listing their Step 3 votes. In addition, 8 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and all 8 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”. The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

Additional documentation

All 8 of the Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists’ recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

In Step 2 notes, page 15, the panel does not address issues regarding persistence, instead noting “N/A (not applicable) Not LSOG dependent”, so they never assessed whether persistence was an issue or not. The species’ known sites will be managed for protection while the species is reviewed for inclusion on the agencies’ special status/sensitive species lists.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Gyromitra montana*

ROD Category: F

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that species is “not an LSOG dependent species, found in both LSOG and younger stands” and “species not dependent on LSOG habitat, often found in non-LSOG habitat”. All 8 of the Step 3 panelists noted this criterion was not met when listing their *Rationale* supporting their Step 3 votes. In addition, 8 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and all 8 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”. The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists' recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

In Step 2 notes, page 15, panel does not address issues regarding persistence, instead noting "N/A (not applicable) Not LSOG dependent". In a March 7, 2002 letter from the taxa expert, she notes that "given the number of sites, and the fact that both species can be found in non-LSOG, the Standards and Guidelines of the Northwest Forest Plan appear to provide for reasonable persistence of these two species." Based on this professional opinion from the taxa expert, this species will not be reviewed for inclusion in the sensitive/special status species programs, as persistence does not appear to be a concern.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Helvella maculata*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that the species is "found in late-successional forest, but also often in younger forest lacking late-successional legacy, without a clear dominance of occurrence in older stands; 16 of 37 collections of the Cascades West OR Province were from non-LSOG", and that the species "is not dependent on LSOG", and that the species is "not associated with LSOG". All 8 of the Step 3 panelists noted that this criterion was not met in documenting their *Rationale* for their Step 3 votes. In addition, 6 of the Step 3 panelists noted that the species "is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range" and 5 noted that the species "does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest."

In addition, species does not need to be reviewed for inclusion on sensitive or special species status lists, as Step 2 documentation indicates little to no concern for persistence (Basic Criterion 3):

The Step 2 panel notes little to no concern for persistence based on 1) moderate-to-high number of likely extant sites; 2) sites are relatively well distributed within the species range; and 3) Matrix Standards and Guidelines or other elements of the NFP provide a reasonable assurance of species persistence (page 13, Step 2 notes).

Additional documentation

All 8 Step 3 panelists voted to remove this species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panel's recommendation and *Rationale* to delist the species. The IMG noted that the species does not meet one of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above. An additional 30-day review comment from the taxa expert states "Our (Step 2) records and experience indicate that this species is found in LSOG, but also often in non-LSOG with no clear dominance of occurrence in older stands."

IMG felt that this comment was not in conflict with the conclusion that the species was not closely associated with LSOG.

SPECIES: *Hydnum umbilicatum*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. Two of the 3 Basic Criteria for being a Survey and Manage species (page 3, S&Gs) are not met. The two Basic Criteria specifically not met are:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state that the species is “found in late-successional forest, but also often in younger forest lacking late-successional legacy, without a clear dominance of occurrence in older stands”. All 8 of the Step 3 panelists noted this criterion was not met when listing their *Rationale* supporting their Step 3 votes. In addition, 7 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 4 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”. The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

AND

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* There are 137 total sites with 38 new since last ASR. Step 2 notes state that 118 of these sites are likely extant. Step 2 specialists refer to this species as “abundant” (page 12, Step 2 notes). Six of the Step 3 panelists noted this criterion when listing *Rationale* supporting their Step 3 vote.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From Step 2 notes, 59 out of 103 Federal sites are within protected land allocations (57%). Step 2 specialists note “moderate-to-high” for the estimated proportion of potential habitat on Federal lands within protected land allocations. This indicates that there is a moderate-high likelihood that the reserves have a high amount of potential habitat, and that there is a high likelihood the habitat is occupied. Four of the Step 3 panelists noted this criterion when documenting their *Rationale* for their Step 3 vote.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 notes the species is “widespread within the suspected range”, (page 2, Step 2 notes), and “well distributed” (page 13). Six of the Step 3 panelists noted this criterion when listing *Rationale* for their Step 3 vote.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists' recommendation and their *Rationale*. The IMG noted that the species does not meet 2 of the 3 Basic Criteria for inclusion in the S&M mitigation. The species is not LSOG associated, and there is not a persistence concern, as there are a high number of extant sites, a high proportion of habitat within reserves, and the species is well distributed.

Step 2 notes, pages 15 and 16, indicate that only 2 of the 3 criteria regarding "little or no concern for persistence" are met, not indicating that criterion 2 above is met. They do not, however, note any criteria indicating a concern for persistence for this species in those portions of the range. The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Mycena monticola*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state that the "species is found in many seral stages, young and old" and that the species is "not dependent on LSOG; associated with LSOG and non-LSOG; associated with coarse woody debris legacy". Eight of the Step 3 panelists noted that this criterion was not met when listing their *Rationale* for their Step 3 votes. In addition, 6 of the Step 3 panelists noted that the species "is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range" and 4 noted that the species "does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest". The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists' recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above, except one panelist indicated a concern for persistence north of Crater Lake, and that removing may be going too far. Since the removing is only based on the determination that the species is not LSOG associated, all known sites of the species will be managed for protection as the species will be reviewed by the BLM and FS for inclusion in the sensitive species program. If there is a concern for persistence maintaining the sites until the evaluation can be completed should address this concern.

SPECIES: *Mycena overholtsii*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category D

JUSTIFICATION: All criteria for Category D are met. Change in Category is due to an increased number of known sites, moving the species from rare to uncommon. Other factors (still meets the S&M criteria and is considered not practical to survey for) remain unchanged. Specific criterion for assigning a species to Category D (page 11, S&Gs) is:

Criterion 1: Meets the same criteria as Category C, except that pre-disturbance surveys are not practical or are not necessary to meet objectives for species persistence because inadvertent loss of some undiscovered sites would not change the level of rarity.

The species moved from rare to uncommon, as evaluated against the 5 criteria for uncommon listed on page 10, S&Gs. Items specifically met are:

A higher number of likely extant sites/records does not indicate rarity of the species (7bi).

Rationale: Step 2 notes indicate 120 total sites, 101 new since last ASR, with 114 considered extant. The species is well distributed within the Northwest Forest Plan area. Three of the Step 3 panelists noted that the species is considered uncommon as opposed to rare, in documenting *Rationale* for their Step 3 votes.

Moderate to high likelihood of sites in reserves (7bv).

Rationale: Step 2 notes indicate that 49 out of 109 sites on Federal land are located within protected land allocations (45%), that the habitat is somewhat common, the breadth of habitat association is broad, and that the species is well distributed within the Northwest Forest Plan area. In addition, they note that the estimated proportion of potential habitat on Federal lands within protected land allocations is "moderate to high". One of the Step 3 panelists noted this criterion in documenting their *Rationale* for their Step 3 vote.

In addition to meeting the uncommon criteria, placement in Category D requires pre-disturbance surveys to be impractical or not needed. Pre-disturbance surveys were considered impractical for this species prior to the 2001 ASR. Step 2 noted that there was no change in the practicality of pre-disturbance surveys. Three of the Step 3 panelists noted their concurrence with this criterion when listing *Rationale* for their Step 3 votes. IMG concurred with this information and expert opinion that pre-disturbance surveys are still impractical.

Additional documentation

Step 3 votes were split evenly between removing the species from S&M and changing the species to Category E or F. The IMG reviewed the step 2 and 3 information and recommended that the species move to a Category D. The IMG recommended this category change based on the number of sites and wide distribution indicate that the species is not rare (120 sites; 101 new sites in 2001). This does not represent the majority vote from the Step 3 panel, as the IMG noticed that doubt about LSOG association was introduced to the Step 3 panel by the taxa lead during the Step 2 presentation to the Step 3 panel. Specifically the taxa lead quoted from the 1997 MR, which does not represent the best available information. IMG feels the doubt raised by these comments was not sufficiently supported by Step 2 documentation.

Additional 30-day review comment from the taxa expert: "Our (Step 2) records and experience indicate that this species is found in both LSOG and non-LSOG, associated with large down woody debris (LSOG legacy). This species fruits at time of snowmelt and is believed to be under collected due to inaccessibility and timing of surveys." Although this comment raises doubt about the LSOG association of this species, at this time the IMG felt there was not enough documentation in the administrative record to move the species to a Category F.

SPECIES: *Neourmula pouchetii***ROD Category:** B**ASR:** 2001**RECOMMENDATION (ENTIRE RANGE):** Remove from S&M mitigation**JUSTIFICATION:** The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:**Basic Criterion 2:** The species must be closely associated with late-successional or old growth forest (2b).*Rationale:* Step 2 notes that the species is “not dependent on LSOG”, is “non-LSOG dependent”, and “appears to be somewhat common; not associated with LSOG”. Eight of the Step 3 panelists noted that this criterion was not met when listing their *Rationale* for their Step 3 votes. In addition, 8 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 6 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest.”

In addition, species does not need to be reviewed for inclusion on sensitive or special species status lists, as Step 2 documentation indicates little to no concern for persistence (Basic Criterion 3):

The Step 2 panel notes little to no concern for persistence based on 1) moderate-to-high number of likely extant sites; 2) sites are relatively well distributed within the species range; and 3) Matrix Standards and Guidelines or other elements of the NFP provide a reasonable assurance of species persistence (Step 2 notes, page 13).

Additional documentation

All 8 Step 3 panelists voted to remove this species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 recommendation to delist. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in S&M mitigation: That the species is not closely associated with LSOG.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Nivatogastrum nubigenum***ROD Category:** B**ASR:** 2001**RECOMMENDATION (OR Eastern Cascades/CA Cascades):** Remove from S&M mitigation**JUSTIFICATION:** The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).**Criterion 3:** The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* Step 2 notes state there are 193 total sites, with 140 new since last ASR. Of these, 171 are likely extant. Seven of the Step 3 panelists noted this criterion when listing *Rationale* for their Step 3 votes to remove the species from S&M mitigation.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From Step 2 notes, 84 out of 171 Federal sites are within protected land allocations (49%). The majority of the Step 3 panel determined that this was a high proportion of sites, as seven of the Step 3 panelists noted this criterion when listing *Rationale* behind their Step 3 votes to remove the species.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 specialists note “widespread within suspected range” (page 2 of Step 2 notes), and “well distributed within its range”. Seven of the Step 3 panelists noted this criterion when listing their *Rationale* for their Step 3 vote to remove the species.

Additional documentation

Seven of the 8 Step 3 panelists voted to remove this species from S&M mitigation in this portion of the species’ range. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panel recommendation to remove in this geographic area. The IMG concluded that the species should be removed as there are a high number of sites, there are a high proportion of sites within the reserve network, and the species is well distributed within this portion of the range.

Step 2 notes indicate, on page 15, that only 2 of the 3 criteria above are met for OR Eastern Cascades and the Cascades Province of CA (professional opinion indicated in the notes shows second criterion above not met). They do not, however, note any criteria indicating a concern for persistence for this species in those portions of the range, and state on page 13 regarding persistence that it is “not a concern in the Cascades East Province in OR or in the Cascades Province of CA”. The 30-day comments from the Step 2 team contained no conflict with these Step 3 panel recommendations to remove.

Remainder of species’ range

In the remaining part of the species range (OR/CA Klamath and OR Western Cascades) no change in species category was noted. Species continues to be a Category B in those locations.

SPECIES: *Otidea leporina*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category D; also range extension noted, moving from central into northern Washington, and into the Olympic Peninsula.

JUSTIFICATION: All criteria for Category D met. Change in Category is due to an increased number of known sites, moving the species from rare to uncommon. Other factors (still meets the S&M criteria and is considered not practical to survey for) remain unchanged. Specific criterion for assigning a species to Category D (page 11, S&Gs) is:

Criterion 1: Meets the same criteria as Category C, except that pre-disturbance surveys are not practical or are not necessary to meet objectives for species persistence because inadvertent loss of some undiscovered sites would not change the level of rarity.

The species moved from rare to uncommon, as evaluated against the 5 criteria for uncommon listed on page 10, S&Gs. Items specifically met are:

1. A higher number of likely extant sites/records does not indicate rarity of the species (7bi). *Rationale:* Step 2 notes indicate 74 total sites, 44 new since last ASR, with 69 considered extant. Step 2 panelists refer to the species as “somewhat common.” Seven of the Step 3 panelists noted that the species is considered uncommon as opposed to rare when listing their *Rationale* for their Step 3 votes. Four noted that there was a “high number of likely extant sites/records that does not indicate rarity.”

2. Less restricted distribution pattern relative to range or potential habitat (7bii). *Rationale:* Step 2 notes indicate that the species is “found throughout the suspected range, but distribution of known sites is spotty”, although species is “widespread within the NWFP area”, with “habitat relatively common”. In addition, species is “uniform through N. CA. and OR, spotty in WA”. Four of the Step 3 panelists noted that the “Distribution pattern relative to its range or potential habitat does not appear restricted” when listing their Step 3 voting *Rationale*.

In addition to meeting the uncommon criteria, placement in Category D requires pre-disturbance surveys to be impractical or are not needed.

Rationale: Step 2 noted that there was no change in the practicality of pre-disturbance surveys. Six of the Step 3 panelists noted that surveys were impractical when listing their Step 3 voting *Rationale*. IMG concurred with this information and expert opinion that pre-disturbance surveys are still impractical.

Additional documentation

Six of the 8 Step 3 panelists voted to place this species in Category D. One other panelist split their vote, with 70% for Category D and 30% for B. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panels’ recommendation to move this species to a Category D. Specifically the IMG noted that the species is not rare, based on the number of sites and wide distribution. In addition, the species is still considered impractical to survey for.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

Range change noted

An extension of the species range was noted, due to new information (biological range change, expanding from central into northern Washington and the Olympic Peninsula). Recommendations and documentation above pertains to entire range, including this newly discovered portion.

SPECIES: *Otidea onotica*

ROD Category: F

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. Two of the 3 Basic Criteria for being a Survey and Manage species (page 3, S&Gs) are not met. The two Basic Criteria specifically not met are:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state that the species is “found in late-successional forest, but also often in younger forest lacking late-successional legacy, without a clear dominance of occurrence in older stands. In addition, on page 13 of the Step 2 notes, the taxa specialists comment that this species is “not dependent on LSOG”, and “not associated with LSOG” (page 14). Seven of the Step 3 panelists noted that this criterion was not met, when they listed their *Rationale* for their Step 3 votes to remove this species from S&M mitigation. In addition, 5 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 4 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”. The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

AND

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* The Step 2 notes state there are 749 total sites, with 642 new since last ASR. Of these, 740 are likely extant. This represents a major increase in the number of sites since the last ASR. The Step 2 specialists state that there are a “high number of sites; abundant” (page 11, Step 2 notes), and that the species “appears to be common” (page 14). Five of the Step 3 panelists noted this criterion when documenting the *Rationale* for their Step 3 votes to remove.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From Step 2 notes, 77 out of 643 Federal sites are within protected land allocations (11%). Step 2 specialists note “no change” for the estimated proportion of potential habitat on Federal lands within protected land allocations. In the FY00 ASR, that percentage was listed as 20-70%. Two of the Step 3 panelists noted this criterion when listing their *Rationale* for their Step 3 votes.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 notes the species is “widespread within the suspected range”, (page 2, Step 2 notes), and “uniform through N. CA and OR, somewhat spotty in WA” (page 11). Five of the Step 3 panelists noted this criterion as supporting *Rationale* for their Step 3 vote.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists’ recommendation and their *Rationale*. The IMG noted that the species does not meet 2 of the 3 Basic Criteria for inclusion in the S&M mitigation. The species is not LSOG associated, and there is not a persistence concern, as there are a high number of extant sites, a high proportion of habitat within reserves, and the species is well distributed.

Step 2 notes, pages 14, indicate that 3 criteria regarding “little or no concern for persistence” are met. However, instead of the second criterion above being met, they list “Matrix Standards and Guidelines or other elements of the NFP provide a reasonable assurance of species persistence”. Regardless, the overall conclusion that there is not a concern for persistence, and that the species is not LSOG associated remains the same.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above. There was an additional 30-day review comment from the taxa expert: “Our (Step 2) records and experience indicate that this common species (more than 740 records) is found in LSOG, but also often in non-LSOG, without a clear dominance of occurrence in older stands.”

Range change noted

An extension of the species range was noted, due to new information (biological range change south into northern CA). Recommendations and documentation above pertains to entire range, including this newly discovered portion.

SPECIES: *Phaeocollybia olivacea***ROD Category:** B**ASR:** 2001**RECOMMENDATION (OR):** Change to Category F

JUSTIFICATION: All criteria for Category F are met. Change in Category is based on lack of knowledge of association with LSOG; and additional sites found for this species move it from rare to uncommon. Specific criteria for Category F are (page 13, S&Gs):

Criterion 1: The species is uncommon and the number of likely extant sites/records and survey information does not indicate rarity (4b, 4bi).

Rationale: From the Step 2 notes, there are 76 total sites with 41 new since last ASR. Fifty-three are likely extant. The Step 2 panel refers to this species as “somewhat common”. Three of 8 Step 3 panelists noted that there are a “moderate to high number of likely extant sites/records known.” All 8 Step 3 panelists noted that this species is “uncommon” as opposed to “rare” when listing their *Rationale* supporting their step 3 votes.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria (including whether there is a concern for persistence) are met, or to determine what management is needed for reasonable assurance of species persistence (3ai, 3aii).

Rationale: A letter from the Regional mycologist dated December 11, 2001, in response to a request for additional information regarding this species states that they “are unable to evaluate old-growth association at this time.” This was new information that was not originally included in the Step 2 notes, and hence was not reflected in the Step 3 votes. Based on this professional/expert opinion, the IMG recommended that information for this species is not sufficient to determine whether Survey and Manage basic criteria are met.

SPECIES: *Phaeocollybia olivacea***ROD Category:** B**ASR:** 2001**RECOMMENDATION (WA/CA):** Change to Category E

JUSTIFICATION: All criteria for Category E are met. Change in Category is based on lack of knowledge of association with LSOG; Rarity remains the same. Specific criteria for Category E are (page 12, S&Gs):

Criterion 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: From Step 2 notes there are 76 total sites, 41 new since last ASR, with 53 likely extant. Majority of these sites are in OR, as panel states “scattered in CA, and one location in WA.” Five of the Step 3 panelists noted that this species is “rare” in CA/WA when they listed *Rationale* supporting their Step 3 votes.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met, or to determine what management is needed for reasonable assurance of species persistence (3ai, 3aii).

Rationale: A letter from the Regional mycologist dated December 11, 2001, in response to a request for additional information regarding this species states that they “are unable to evaluate old-growth association at this time.” This was new information that was not originally included in the Step 2 notes, and hence was not reflected in the Step 3 votes. Based on this professional/expert opinion, the IMG recommended that information for this species is not sufficient to determine whether Survey and Manage basic criteria are met.

Additional documentation

In WA and CA 5 Step 3 panelists voted to retain the species as a Category B, with 3 others voting to move to Category D.

Seven panelists voted to move the species to Category D in OR, with one other panelist splitting their vote with 60% going for Category D and 40% for Category F. The IMG reviewed

the Step 2 and 3 information and noted that moving to a Category D conflicted with the information presented by the Step 2 panel. The Step 2 panel concluded “no concern for persistence” in OR, with a 30-day review comment from one of the Step 2 panelists stating: “The Step 2 worksheet... documents that the panel indicates that species persistence is not a concern in OR, [but] there were no [Step 3] votes to delist the species in OR. The majority of the Step 3 panel votes and the Step 2 administrative record are in conflict on this point.” The IMG noted however, that there is little documentation in the Step 2 notes to indicate little to no concern for persistence. During the IMG review, a query of the ISMS database indicated that only 6 of the 50 Oregon records are in LSR (12%). The IMG concluded that the species should not be removed, but requested more information from the taxa expert.

The information from the taxa expert is documented above, indicating that LSOG association is unknown at this time for this species across the species’ range. The IMG used that new information to recommend Category E in CA/WA and F for this species in OR.

SPECIES: *Pithya vulgaris*

ROD Category: D

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that the species is “not dependent on LSOG”, and “appears to be somewhat abundant; not associated with LSOG”. Eight of the Step 3 panelists noted this criterion was not met in their documentation of *Rationale* for their Step 3 votes. In addition, 8 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 6 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest.”

In addition, species does not need to be reviewed for inclusion on sensitive or special species status lists, as Step 2 documentation indicates little to no concern for persistence (Basic Criterion 3):

The Step 2 panel notes little to no concern for persistence based on 1) moderate-to-high number of likely extant sites; 2) sites are relatively well distributed within the species range; and 3) Matrix Standards and Guidelines or other elements of the NFP provide a reasonable assurance of species persistence (Step 2 notes, page 13).

Additional documentation

All 8 Step 3 panelists voted to remove the species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 2 panel’s recommendation to delist this species. The IMG noted that the species does not meet 1 of the 3 Basic Criteria or inclusion in the S&M mitigation: The species is not LSOG associated.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

SPECIES: *Plectania melastoma***ROD Category:** F**ASR:** 2001**RECOMMENDATION (ENTIRE RANGE):** Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. Two of the 3 Basic Criteria for being a Survey and Manage species (page 3, S&Gs) are not met. The two Basic Criteria specifically not met are:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state the “species found in many seral stages, young and old”. In addition, on page 15 of the Step 2 notes, the taxa specialists comment that this species is “not dependent on LSOG; associated with LSOG and non-LSOG”, and “non-LSOG associated”. Eight of the Step 3 panelists noted that this criterion was not met when listing their *Rationale* for their Step 3 votes to remove this species from S&M mitigation. In addition, 8 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 5 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”. The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

AND

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* There are 129 total sites with 67 new since last ASR. Of these, 127 are likely extant (from Step 2 notes). Step 2 specialists refer to this species as “abundant” (page 12, Step 2 notes), and “appears to be common” (page 14). Five of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From Step 2 notes, 31 out of 90 Federal sites are within protected land allocations (34%). Step 2 specialists note “moderate” for the estimated proportion of potential habitat on Federal lands within protected land allocations. One of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 3: Matrix Standards and Guidelines or other elements of the NFP provide for reasonable assurance of species persistence (2civ).

Rationale: On page 16 of the Step 2 notes, the Step 2 panelists indicate that this criterion is met, that the Matrix S&Gs or other elements of the NFP provide for a reasonable assurance of persistence. Five of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists’ recommendation and their *Rationale*. The IMG noted that the species does not meet 2 of the 3 Basic Criteria for inclusion in

the S&M mitigation. The species is not LSOG associated, and there is not a persistence concern, as there are a high number of extant sites, a high proportion of habitat within reserves, and the Matrix Standards and Guidelines or other elements of the NFP provide for a reasonable assurance of species persistence. On page 13 of the Step 2 notes, comments about persistence for this species is “probably not a concern in OR; of concern in WA and CA”. However, over the entire range the Step 2 notes (page 16) indicate that 3 criteria regarding “little or no concern for persistence” are met, (although they are not the same 3 criteria listed above. Instead, they list “Sites are relatively well distributed within the species range” in place of the second criterion above. Four of the 8 Step 3 panelists voted for that criterion). Regardless, the overall conclusion remains the same, that the species does not meet 2 of the Basic Criteria for inclusion in the S&M mitigation: the species is not LSOG associated, and there is little to no concern for persistence. The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations.

Additional 30-day review comment from the taxa expert states: “Our (Step 2) records and experience indicate that this species is found in many seral stages. Within the last year, approximately 67 new sites were located in non-LSOG.”

SPECIES: *Plectania milleri*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that the “species found more in younger forest (<80 years old) than late-successional forest”, and “not dependent on LSOG; associated with LSOG and non-LSOG”. Eight of the Step 3 panelists noted that this criterion was not met in their documentation of *Rationale* for their Step 3 votes. In addition, 7 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 6 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest.”

In addition, species does not need to be reviewed for inclusion on sensitive or special species status lists, as Step 2 documentation indicates little to no concern for persistence (Basic Criterion 3):

The Step 2 panel notes little to no concern for persistence based on 1) moderate-to-high number of likely extant sites; 2) sites relatively well distributed within the species range; and 3) Matrix Standards and Guidelines or other elements of the NFP provide a reasonable assurance of species persistence (Step 2 notes, page 16).

Additional documentation

All 8 Step 3 panelists voted to remove the species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panels’ recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation: The species is not LSOG associated.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

Range change noted

An extension of the species range was noted, due to new information (biological range change into northern WA). Recommendations and documentation above pertains to entire range, including this newly discovered portion.

SPECIES: *Ramaria rubripermanens***ROD Category:** B**ASR:** 2001**RECOMMENDATION (OR):** Change to Category D

JUSTIFICATION: All criteria for Category D are met. Change in Category is due to an increased number of known sites, moving the species from rare to uncommon. Other factors (still meets the S&M criteria and is considered not practical to survey for) remain unchanged. Specific criterion for assigning a species to Category D (page 11, S&Gs) is:

Criterion 1: Meets the same criteria as Category C, except that pre-disturbance surveys are not practical or are not necessary to meet objectives for species persistence because inadvertent loss of some undiscovered sites would not change the level of rarity.

The species moved from rare to uncommon, as evaluated against the 5 criteria for uncommon listed on page 10, S&Gs. Items specifically met are:

1. A higher number of likely extant sites/records does not indicate rarity of the species (7bi). *Rationale:* Step 2 notes indicate 169 total sites, 93 new since last ASR, 168 sites are considered extant. Step 2 panel states “more well distributed than before”, “high number of sites, abundant”. Six of the Step 3 panelists noted that the species is considered uncommon as opposed to rare in their documentation of *Rationale* for their Step 3 votes, with 6 also noting “high number of likely extant sites/records that does not indicate rarity”.

In addition to meeting the uncommon criteria, placement in Category D requires pre-disturbance surveys to be impractical or are not needed. Species is still considered impractical to survey for. Seven of the Step 3 panelists noted their concurrence with this criterion in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

Seven of the 8 Step 3 panelists voted to move this species to Category D. However, the Step 2 panel concluded that there is “little concern for persistence in OR”, and identified 3 of the 4 criteria regarding “little or no concern for persistence” to have been met. However, the IMG reviewed the Step 2 documentation and recommended against removing, instead supporting the Step 3 panel recommendations. The IMG concluded that removing was not yet appropriate, as only 16% of the known federal sites are in protected allocations, and that although known site distribution is well represented in S. Oregon it is spotty in West Cascades Province of OR. They concluded that purposive surveys could increase the likelihood of finding additional sites, and reduce the chances of inadvertent loss of sites.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations.

Remainder of species’ range

In the remaining part of the species range (CA and WA) no change in species category was noted. Species continues to be a Category B in those locations.

SPECIES: *Sarcodon imbricatus***ROD Category:** B**ASR:** 2001**RECOMMENDATION (ENTIRE RANGE):** Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* There are 127 total sites, 38 are new since last ASR. Eighty-eight of these sites are likely extant (From Step 2 notes). Step 2 specialists refer to the species as “abundant” (page 12, Step 2 notes). Seven of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From Step 2 notes, 49 out of 100 Federal sites are within protected land allocations (49%). In addition, Step 2 notes document the breadth of habitat association as broad and the proportion of potential habitat within protected land allocations as moderate to high. Five of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 specialists note “widespread within the suspected range” (page 2 of Step 2 notes), “widespread within the NWFP area” and sites relatively well distributed within the species range (page 15 of Step 2). Seven Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

Six of the Step 3 panelists voted to remove this species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panel’s recommendation to remove the species from S&M mitigation. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in S&M mitigation. The IMG agreed that there are a moderate-to-high number of likely extant sites, that there is a high likelihood of occupied potential habitat within reserves, and that the species is well distributed.

Step 2 notes indicate, on page 16, that only 2 of the 3 criteria above are met. They do not identify the second criterion above as having been met, even though they state previously (page 10) that a “moderate to high” amount of potential habitat is within reserves. They do not, however, note any criteria indicating a concern for persistence for this species. The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations.

SPECIES: *Sarcosoma latahense*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that the “species found in many seral stages, young and old”, and “not dependent on LSOG; associated with LSOG and non-LSOG” and “non-LSOG associated”. Seven of the Step 3 panelists noted that this criterion was not met in their documentation of

Rationale for their Step 3 votes. In addition, 8 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 4 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest.”

In addition, species does not need to be reviewed for inclusion on sensitive or special species status lists, as Step 2 documentation indicates little to no concern for persistence (Basic Criterion 3):

The Step 2 panel notes little to no concern for persistence based on 1) moderate-to-high number of likely extant sites; 2) sites are relatively well distributed within the species range; and 3) Matrix Standards and Guidelines or other elements of the NFP provide a reasonable assurance of species persistence (Step 2 notes, page 16).

Additional documentation

All 8 Step 3 panelists voted to remove this species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 recommendation to remove the species from S&M mitigation. The IMG noted that, based on the Step 2 panel information and professional opinion, this species is not closely associated with LSOG.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

Range change noted

An extension of the species range was noted, due to new information (biological range change south into northern CA). Recommendations and documentation above pertains to entire range, including this newly discovered portion.

SPECIES: *Sarcosoma mexicana*

ROD Category: F

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that the “species found in many seral stages, young and old”, and “not dependent on LSOG; associated with LSOG and non-LSOG”, and “non-LSOG associated”. Seven of the Step 3 panelists noted that this criterion was not met in their documentation of *Rationale* for their Step 3 votes. In addition, 8 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 4 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”.

In addition, species does not need to be reviewed for inclusion on sensitive or special species status lists, as Step 2 documentation indicates little to no concern for persistence (Basic Criterion 3):

The Step 2 panel notes little to no concern for persistence based on 1) moderate-to-high number of likely extant sites; 2) sites are relatively well distributed within the species range; and 3) Matrix Standards and Guidelines or other elements of the NFP provide a reasonable assurance of species persistence (Step 2 notes, page 16).

Additional documentation

All 8 Step 3 panelists voted to remove the species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelist's recommendation to remove the species from S&M mitigation. The IMG noted the Step 2 information and professional opinion in concluding that the species is not closely associated with LSOG.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above. An additional 30-day review comment from the taxa expert noted: "Our (Step 2) records and experience indicate that this species is widespread and common, occurring in many seral stages". This statement underscores the recommendation by the Step 3 panel to remove the species from S&M.

Range change noted

An extension of the species range was noted, due to new information (biological range change into Washington near the Canadian border). Recommendations and documentation above pertains to entire range, including this newly discovered portion of the range.

SPECIES: *Sarcosphaera eximia*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes that "species found in many seral stages, young and old", is "not dependent on LSOG; associated with LSOG and non-LSOG", "non-LSOG dependent", and "not associated with LSOG". All of the 8 Step 3 panelists noted that this criterion was not met in their documentation of *Rationale* for their Step 3 votes. In addition, 8 of the Step 3 panelists noted that the species "is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range" and 6 noted that the species "does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest."

In addition, species does not need to be reviewed for inclusion on sensitive or special species status lists, as Step 2 documentation indicates little to no concern for persistence (Basic Criterion 3):

The Step 2 panel notes little to no concern for persistence based on 1) moderate-to-high number of likely extant sites; 2) sites are relatively well distributed within the species range; and 3) Matrix Standards and Guidelines or other elements of the NFP provide a reasonable assurance of species persistence (Step 2 notes, page 13).

Additional documentation

All 8 Step 3 panelists voted to remove this species. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelist's recommendation to remove the species from S&M mitigation. The IMG noted the Step 2 information and professional opinion in concluding that the species is not closely associated with LSOG.

The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations and the determinations above.

Range change noted

An extension of the species range was noted, due to new information (biological range change into the Eastern Cascades Province of WA, nearly to the Canadian border).

Recommendations and documentation above pertains to entire range, including this newly discovered portion of the range.

SPECIES: *Tremiscus helvelloides*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category D

JUSTIFICATION: All criteria for Category D are met. Change in Category is due to an increased number of known sites, moving the species from rare to uncommon. Other factors (still meets the S&M criteria and is considered not practical to survey for) remain unchanged. Specific criterion for assigning a species to Category D (page 11, S&Gs) is:

Criterion 1: Meets the same criteria as Category C, except that pre-disturbance surveys are not practical or are not necessary to meet objectives for species persistence because inadvertent loss of some undiscovered sites would not change the level of rarity.

The species moved from rare to uncommon, as evaluated against the 5 criteria for uncommon listed on page 10, S&Gs. Items specifically met are:

1. A higher number of likely extant sites/records does not indicate rarity of the species (7bi).
Rationale: Step 2 notes indicate 53 total sites, 13 new since last ASR, 26 considered extant. Step 2 panel states that species is “somewhat common”, with a “higher number of sites”. Six of the Step 3 panelists noted that the species is considered uncommon as opposed to rare in their documentation of *Rationale* for their Step 3 votes, with 5 also noting a “high number of likely extant sites/records that does not indicate rarity”.
2. Less restricted distribution pattern relative to range or potential habitat (7bii).
Rationale: Step 2 states “widespread throughout the suspected range” and “habitat relatively common”. Six of the Step 3 panelists noted that the “distribution pattern relative to its range or potential habitat does not appear restricted” in their documentation of *Rationale* for their Step 3 votes.
3. Moderate-to-broad ecological amplitude (7biv)
Rationale: Step 2 notes, “broad” breadth of habitat association, and that species has a “moderate-to-broad ecological amplitude” (step 2 notes, page 16). Three Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

In addition to meeting the uncommon criteria, placement in Category D requires pre-disturbance surveys to be impractical or are not needed. Species is still considered impractical to survey for. All 8 Step 3 panelists noted their concurrence with this criterion in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

Seven of the 8 Step 3 panelists voted to move this species to Category D. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists’ recommendation and their *Rationale*. The 30-day comments from the Step 2 team contained no conflict with Step 3 panel recommendations.

SPECIES: *Gomphus floccosus*

[*Turbinellus floccosus*]

ROD Category: F

ASR: 2001

RECOMMENDATION (CA): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* Step 2 notes state there are 327(+) total sites with 132 new since last ASR. Of these, 282 are likely extant (from Step 2 notes). Step 2 specialists note the species is “More common than previously thought and more documented.” One Step 3 panelist noted this criterion when documenting their *Rationale* for their Step 3 vote.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From Step 2 notes, 124 out of 286 Federal sites are within protected land allocations (43%). Step 2 specialists also note “no change (high)” for the estimated proportion of potential habitat on Federal lands within protected land allocations. This indicates that there is a high likelihood that the reserves have a high amount of potential habitat, and that there is a high likelihood the habitat is occupied. One Step 3 panelist noted this criterion when documenting their *Rationale* for their Step 3 vote.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 specialists note no change from last assessment: that the species still is considered widespread (page 2&3 of Step 2 notes). One Step 3 panelist noted this criterion when documenting their *Rationale* for their Step 3 vote.

Additional documentation

There was no majority in the Step 3 votes, with no clear recommendation noted. Votes were scattered almost evenly into four specific Categories: Remove from S&M mitigation, F, E and D. The IMG reviewed the Step 2 and 3 information, as well as the 30-day review comments from the Step 2 panel and recommended that the species be removed from S&M mitigation. The IMG concluded that there is little to no concern for persistence to this species based on a moderate to high number of sites, a reserve network likely to contain a high number of sites, and a well distributed population within the species range.

In addition, 30-day comments from the Step 2 panel support removing: “...there is a clear contradiction between Step 2 Worksheet (page 16, 8A.3b.), which documented the belief that there is not persistence concern for this species and the majority of the Step 3 Panel’s votes to retain this species in the Survey and Manage program.”

On page 16 of the Step 2 notes, the specialists indicated that all three criteria listed above were met.

LICHENS

SPECIES: *Bryoria pseudocapillaris*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category A

JUSTIFICATION: Meets all criteria for Category A. Surveys are now considered practical. Other factors (still meets the S&M Basic Criteria and is rare) remain the same. The specific criterion met for assigning this species to Category A is (S&G page 7):

Criterion 1: Pre-disturbance surveys are practical. Surveys prior to initiation of habitat disturbance are considered “practical” if all of the following criteria apply (page 25, S&Gs): The taxon appears annually or predictably, producing identifying structures that are visible for a predictable and reasonably long time.

The taxon is not so minuscule or cryptic as to be barely visible.

The taxon can authoritatively be identified by more than a few experts, or the number of available experts is not so limited that it would be impossible to accomplish all surveys or identifications for all proposed habitat-disturbing activities in the Northwest Forest Plan area needing identification within the normal planning period for the activity.

The taxon can be readily distinguished in the field and needs no more than simple laboratory or office examination to confirm its identification.

Surveys do not require unacceptable safety or species risks.

Surveys can be accomplished in two field seasons (approximately 7-18 months).

Credible survey methods for the taxon are known or can be developed within a reasonable time period (approximately 1 year).

Rationale: New information indicates that surveys are practical: “A surveyor with adequate training (at least five day course in general lichen training and a botanical background) can identify this in the field. This species does have a distinctive field character” (Step 2). Three out of the 8 Step 3 panelists commented that surveys are now practical in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

Seven of the 8 Step 3 panelists voted to move this species to Category A. Although not explicitly stated in the Step 3 notes or discussion, this implies that these 7 panelists recommended that surveys are now considered practical. The IMG reviewed the Step 2 and 3 information and agreed with the Step 3 panel determination. The 30-day review contained no conflict with Step 3 results to change to Category A.

SPECIES: *Bryoria spiralifera*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category A

JUSTIFICATION: Meets all criteria for Category A. Surveys are now considered practical. Other factors (still meets the S&M Basic Criteria and is rare) remain the same. The specific criterion met for assigning this species to Category A is (S&G page 7):

Criterion 1: Pre-disturbance surveys are practical. Surveys prior to initiation of habitat disturbance are considered “practical” if all of the following criteria apply (page 25, S&Gs): The taxon appears annually or predictably, producing identifying structures that are visible for a predictable and reasonably long time.

The taxon is not so minuscule or cryptic as to be barely visible.

The taxon can authoritatively be identified by more than a few experts, or the number of available experts is not so limited that it would be impossible to accomplish all surveys or identifications for all proposed habitat-disturbing activities in the Northwest Forest Plan area needing identification within the normal planning period for the activity.

The taxon can be readily distinguished in the field and needs no more than simple laboratory or office examination to confirm its identification.

Surveys do not require unacceptable safety or species risks.

Surveys can be accomplished in two field seasons (approximately 7-18 months).

Credible survey methods for the taxon are known or can be developed within a reasonable time period (approximately 1 year).

Rationale: New information indicates that surveys are practical: “A surveyor with adequate training (at least five day course in general lichen training and a botanical background) can identify this in the field. This species does have a distinctive field character” (Step 2).

Additional documentation

Seven of the 8 Step 3 panelists voted to move this species to Category A. Although not explicitly stated in the Step 3 notes or discussion, this implies that these 7 panelists recommended that surveys are now considered practical. The IMG reviewed the Step 2 and 3 information and agreed with the Step 3 panel determination. The 30-day review contained no conflict with Step 3 results to change to Category A.

SPECIES: *Bryoria tortuosa*

ROD Category: A and D

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. Two of the three Basic Criteria for S&M are not met (page 3, S&Gs). The two Basic Criteria not met are: **Basic Criterion 2: The species must be closely associated with late-successional or old-growth forest and Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.**

Basic Criterion 2: The species must be closely associated with late-successional or old-growth forest.

New information indicates that *Bryoria tortuosa* is not considered associated with LSOG forest or with LSOG forest habitat components.

Rationale: *Bryoria tortuosa* sites occurring in the WA Olympic Peninsula, WA Western Lowlands, OR Willamette Valley and CA are reported to be dry and fairly open (Step 3 notes). Sites occurring in the WA Eastern Cascades, OR Eastern Cascades, Klamath Physiographic province and Jackson County, Oregon are reported to be “dry, open, well-lit sites” (Step 3 notes). Substrates include Grand fir in the Puget Sound area, and oceanspray along the coast and in the Washington Western lowlands. In the Willamette valley, the species occurs on oaks (2 sites) and on a large yew tree (Step 3 notes). Step 2 (page 4-5) documents many sites in open, clearly non-LSOG areas such as manzanita brush fields in southwest Oregon, along the edges of clearcuts and near power lines in eastern Washington, and in open stands of ponderosa pine and Oregon white oak on the Mt Hood National Forest. Some sites are located in open forested stands of mixed-aged trees with an older tree component. The Six Rivers NF/Shasta-Trinity NF sites are in open late-seral ponderosa pine-oak, ponderosa pine-grey pine, Douglas-fir-ponderosa pine /ponderosa pine-manzanita stands. Sites from the Deschutes NF are in old open ponderosa pine-lodgepole pine-bitterbrush communities. The site near Yelm (Washington) is in an old oak stand in an oak bald. (Step 2, page 4-5).

The Step 2 and 3 panels were uncertain whether the ROD definition for LSOG included old non-coniferous trees. Comments received from the taxa lead and taxa expert during 30 day review stated that the “dry, open and well-lit probably can’t be used to determine status as LSOG” but that “a number of sites occur in stands where trees are less than 80 years old.” IMG concluded that the weight of the evidence provided in Step 2 and Step 3 seemed to indicate that the species is not associated with LSOG forest or LSOG components in southwest Oregon where most of the sites are located and that this lack of association with LSOG forest and LSOG components may also be true for the rest of the species’ range.

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Though *Bryoria tortuosa* was analyzed by the Step 2 panel in the WA Olympic Peninsula, WA Western Lowlands, OR Willamette Valley and CA separately from WA Eastern Cascades, OR Eastern Cascades, Klamath Physiographic province and Jackson County, Oregon, the species was analyzed across its entire range by the Step 3 panel. New information, when applied across the species range seems to indicate little or no concern for species persistence. Two of the four criteria indicating little or no concern for persistence appear to be satisfied when information is considered across the species range.

Criterion 1: Moderate-to-high number of likely extant sites/records

Rationale: Additional information provided by the taxa team during Step 3 review indicated that many new sites had been found since the last ASR. The Taxa team visited sites and verified specimens (50 new sites from Nachez, plus 300+ sites from the Medford District). There are a total of 698 sites in the WA Eastern Cascades, OR Eastern Cascades,

Klamath Physiographic province and Jackson County, Oregon and 18 sites (3 on federal land) in the rest of the species range.

Step 2 states that "based on observational information ...the species is widespread and abundant throughout large tracts of suitable habitat" (page 9) and that the "species has been reported in 45 plant communities" and does not appear to have a narrow ecological amplitude.

Criterion 4: Matrix Standards and Guidelines or other elements of the Northwest Forest Plan provide a reasonable assurance of species persistence.

Rationale: The taxa lead and taxa expert noted during Step 3 that only 2% of the land base would be impacted in the WA Eastern Cascades, OR Eastern Cascades, Klamath Physiographic province and Jackson County, Oregon and that there would be no threat to persistence in this portion of the species range due to high numbers and good distribution. IMG concluded that "management activities will have little risk to suitable habitat" in the rest of the species range.

Additional documentation

There was unity among the taxa team during Step 2 in regard to the conclusion that there was little or no concern for persistence in the WA Eastern Cascades, OR Eastern Cascades, Klamath Physiographic province and Jackson County, Oregon. The taxa team expressed differences of opinion, however, about the concern for persistence in the rest of the range (4 uncertain, 1 concern for persistence, 1 little or no concern for persistence). The taxa lead concluded during Step 3 that there is no concern for persistence when the entire range of the species was considered. The taxa lead and taxa expert expressed a different opinion in their 30 day review comments and stated that the species is not secure in the Washington Olympic peninsula, Washington Lowlands, Oregon Willamette Valley and California and if these outlier/disjunct populations were lost, the range of the species could be reduced by nearly half.

The Step 3 Panel voted unanimously to remove *Bryoria tortuosa* from the Survey and Manage list across its entire range. IMG agreed with the unanimous vote of the Step 3 Panel.

SPECIES: *Calicium glaucellum*

ROD Category: F

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the three Basic Criteria for S&M is not met (page 3, S&Gs). The Basic Criteria not met is Criterion 3:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Three of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites/records

Rationale: New information, based on recent work by Edwards et al. 2002 and the experience and opinion of Davis and Peterson (Step 2 Worksheet reference 3.a, 3b) has led the Taxa Expert/Lead to consider this species common. This is based on the results of the 2000 and 2001 CVS random grid strategic surveys which recorded the species from 58 plots; identifications/verifications by Eric Peterson; John Davis' purposive surveys in the Columbia River Gorge NSA which found a number of sites (not yet recorded in ISMS); and the 55 new sites reported in ISMS since the last species review (Step 2 Worksheet).

There are a moderate to high estimated number of sites in a portion of the range. A total of 840 Regional Air Quality CVS plots were sampled on seven national forests, the Gifford Pinchot, Mt Hood, Willamette, Siuslaw, Umpqua, Deschutes, and Winema (Step 2 Worksheet Reference 3.a). Of the 840 plots sampled, the species was found on 35. By extrapolating these results, it was estimated that the species would occur on 258,930 acres (s.d. \pm 42,847). This estimate is probably low because pin lichens were not consistently collected at all plots.

Criterion 2: High proportion of sites and habitat in reserve land allocations;

Rationale: Calicium glaucellum appears to be strongly associated with reserve areas. Edwards et al. 2002 (Step 2 Worksheet Reference 3.a) found that there is a statistically significant number of sites associated with reserves. Since this species has an association with LSOG, there is also likely to be a high proportion of habitat in reserves. The majority of current known sites are in reserves.

Criterion 4: Matrix Standards and Guidelines or other elements of the Northwest Forest Plan provide a reasonable assurance of species persistence.

Rationale: New information indicates that the reserve system and other Standards and Guidelines do appear to provide for the persistence of Calicium glaucellum. The NWFP Standards and Guidelines for snag retention will contribute to reasonable assurance of persistence. In addition to snag retention, the 15% leave tree retention could provide a reasonable assurance of persistence if the trees are large and old (Step 2 Worksheet, Step 3 Panel). Eric Peterson is not concerned with its persistence based on how frequently he finds it. (Step 3 Panel).

Additional documentation

The Step 3 Panel voted unanimously to remove Calicium glaucellum from the Survey and Manage list. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 and Step 3 analysis. IMG agreed with the unanimous vote of the Step 3 Panel for removal of this species from Survey and Manage.

SPECIES: *Calicium viride*

ROD Category: F

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the three Basic Criteria for S&M is not met (page 3, S&Gs). The Basic Criteria not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. All four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites/records

Rationale: The total number of likely extant sites for this species is 150, 118 of which are ISMS records (Step 2 Worksheet). There were 79 new sites located since the last review (111% increase). Most of these were discovered during pre-disturbance surveys even though the species is not a target species. There were also a total of 18 detections on the CVS random grid plots representing a detection rate of 9%. Though statistical estimates were not calculated, a detection rate of 9% is not typically associated with rare species. The 79 new sites detected since the last review in addition to the 9% detection rate on the random grid support the conclusion of moderate-to-high number of likely extant sites/records.

Criterion 2: High proportion of sites and habitat in reserve land allocations;

Rationale: Of a total of 119 sites recorded in ISMS, 41 occur within reserves. ISMS records resulted primarily from pre-disturbance surveys and were, therefore, weighted toward matrix. This species was represented on 18 of 200 (9%) CVS random grid plots in the Umpqua and Oregon Coast range pilot areas, surveyed in 2000 (Step 2 Worksheet, page 1). Sixteen of the 18 plots (89%) were in reserves, representing a higher detection rate in reserves than the number of plots in reserves (80%). Because it was not a target species for this survey, it was likely under collected in some areas.

Criterion 3: Sites are relatively well-distributed within the species range

Rationale: The species has fairly broad ecological amplitude, and has been detected from the Mendocino NF to the Mt. Baker-Snoqualmie NF in 9 physiographic provinces with a relatively even distribution (Step 2, page 6). Dr. Eric Peterson, a Northwest expert on this genus believes that there is no concern for the species' persistence based on abundance and distribution (Step 2, page 9).

Criterion 4: Matrix Standards and Guidelines or other elements of the Northwest Forest Plan provide a reasonable assurance of species persistence.

Rationale: Standards and Guidelines such as the 15% green tree retention guideline will contribute toward providing assurance of persistence if the selected trees are the largest available (Step 2, page 6).

Additional documentation

Six of 8 Step 3 panelists voted to remove the species from Survey and Manage based on the number of new sites, the number of sites in reserves, distribution of the species across 9 physiographic provinces and the detection rate on the random grid.

The taxa lead and taxa expert provided two comments during the 30-day review clarifying statements made during Step 3 panel discussions regarding persistence. In response to a Step 3 panelist comment that the species was “found mainly in reserves,” they said the taxa team concluded in Step 2 that they were uncertain whether the proportion of sites and habitat in reserves was high enough to predict persistence. The taxa lead and expert also clarified that random grid surveys (from the Umpqua and Coast Range pilot areas) were not done more intensively than others; the greater number of sites discovered likely resulted from the additional training received by surveyors. Besides these two points of clarification, the 30-day review recorded no conflicts between Step 2 analysis and the Step 3 majority vote. IMG agreed with the Step 3 Panel majority vote and recommended removal of the species from Survey and Manage.

SPECIES: *Chaenotheca furfuracea*

ROD Category F

ASR: 2003

RECOMMENDATION (ENTIRE RANGE): Remove from S&M Mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Three of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: The Step 2 worksheets documented a total of 153 sites in the NWFP area, 25 of these were detected in random grid strategic surveys. Even though pre-disturbance surveys for this species are considered practical, they have not been required (because species has been in Category F). For this reason it has not been regularly documented by field units in preparation for proposed habitat disturbing activities. Step 2 concluded that 153 known sites were low-to-moderate but were divided in their opinions on whether the estimated number of known sites was low-to-moderate or moderate-to-high. The majority of Step 2 panelists felt that the estimated number of sites occurring in the NWFP was low-to-moderate based on the estimate that 2.3% to 3.7% of all ½ acre plots would be occupied by the species. IMG, along with a minority of the Step 2 panel concluded that there were a moderate-to-high number of estimated sites based on the fact that statistical analysis estimated between 977,700 and 1,591,700 sites in the NWFP and that the random grid may have underestimated the number of known sites.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented that 53% of the 32 ISMS sites are in reserve land allocations. Another 70 sites are documented to occur in the Columbia River Gorge National Scenic Area. Although Step 2 stated that they were uncertain whether there is a high proportion of sites and habitat in reserves, IMG felt there was limited risk in concluding that there was a high proportion of sites and habitat in reserves considering that 53% of the ISMS sites are in reserves, 70 additional sites are documented in the Columbian River Gorge National Scenic Area, and that between 977,700 and 1,591,700 sites are estimated from the random grid survey.

Criterion 3. Sites are relatively well distributed within species range.

Rationale: Both IMG and Step 2 concluded that the species is well distributed (distribution is sufficient to permit normal biological function and species interactions, considering life history characteristics of the species and the habitats for which it is specifically adapted) based on ISMS and random grid data.

Additional documentation

One out of seven Step 3 panelists voted to remove *Chaenotheca furfuracea* from Survey and Manage. They felt that there was no concern for persistence based on a moderate-to-high number of likely extant sites and that the species is relatively well distributed within the species range.

SPECIES: *Cladonia norvegica*

ROD Category B

ASR: 2003

RECOMMENDATION (ENTIRE RANGE): Remove from S&M Mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Two of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: The Step 1 worksheets documented a total of 70 sites in the NWFP area, 37 of these were detected in random grid strategic surveys (The discrepancy between Step 1 and Step 2 worksheets, 66 new sites versus 66 total sites, respectively, was clarified by the tax expert during Step 3). Pre-disturbance surveys for this species are not considered practical and for this reason it has not been regularly documented by field units in preparation for proposed habitat disturbing activities. Step 2 documented that 66 known sites were low-to-moderate. The Step 2 panel also concluded that the estimated number of sites from that random grid data was also low-to-moderate based on the fact that 4% to 6% of all ½ acre plots in the NWFP would be expected to be occupied though a full analysis of random grid data was not completed. IMG concluded that there were a moderate-to-high number of estimated sites based on the fact that 4% to 6% of all ½ acre plots represents 1,833,200 to 2,740,800 sites in the NWFP area.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented 58% of the random grid sites in reserve land allocations. The ISMS data base documents 16 sites (42%) in reserves. Approximately 53% of all known sites (random grid and ISMS) occur in reserve allocations. Although Step 2 stated that they were uncertain whether there is a high proportion of sites and habitat in reserves, IMG felt there was limited risk in concluding that the proportion of sites and habitat was high when the proportion of sites in reserves was considered along with the rate of detection on the random grid.

Additional documentation

The Step 2 panel concluded the species was uncommon based on the estimated number of occupied sites from the random grid and documented that the species had a broad ecological amplitude based on the large geographic range (from Alaska to southern Oregon).

SPECIES: *Dendriscoaulon intracatum* **ROD Category:** B **ASR:** 2001

RECOMMENDATION (southern OR (all of Coos, Douglas, Curry, Josephine and Jackson Counties) and CA): Change to Category E

JUSTIFICATION: Meets all criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species is still considered rare (no change). Specific criteria for assigning a species to Category E are (page 12, S&Gs):

Criterion 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: Of a total number of 211 sites, 186 of them occur on federal lands. Although according to the Step 2 summary report 140 new sites for this species were entered since Feb. 1, 2000 (127 new sites are on Medford BLM in mixed oak habitat), some of the sites are close enough to be considered 'one' site rather than several based on the 100- meter definition ("within several hundred feet of each other"). Thus, the actual number of new sites is lower than the reported number. Step 2 refers to a "low to moderate numbers of sites including southwestern Oregon". Four Step 3 panelists noted this criterion for the entire species range in their documentation of *Rationale* for their Step 3 votes.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: The sites within this defined area are all within oak habitat. Step 2 summary notes state that because oak habitat has been poorly surveyed until the recent surveys in southwest Oregon, there has been no change in the understanding of this species' association with LSOG. Four of the Step 3 panelists noted their agreement with this criterion for WA, OR east Cascades,

and CA in their documentation of *Rationale* for their Step 3 votes. The IMG in their review of this information noted that they were unable to determine if the species is associated with LSOG oak habitat, and whether oak habitats are to be covered by the ROD. The IMG recommends purposive and known site surveys to help determine the association.

Additional documentation:

During the Step 3 voting, a clear delineation of where the species should be considered Category E was not readily apparent. The IMG reviewed the Step 2 and 3 information and agreed with the Step 3 recommendation to move this species to a Category E in a portion of the species range. The IMG was also unclear exactly where this delineation should be, so additional information was requested from the taxa lead. In a memo dated December 17, 2001, the taxa lead recommends the specific area to be covered by a change to Category E: Coos, Douglas, Curry, Josephine, and Jackson Counties in Oregon and all of California. This delineation was agreed upon by the IMG and applies to the above recommendation.

There were no 30-day comments that conflicted with this recommendation.

SPECIES: *Dendriscocaulon intracatum* **ROD Category:** B **ASR:** 2001

RECOMMENDATION (remainder of OR, all of WA): Change to Category A

JUSTIFICATION: Meets all criteria for Category A. Surveys are now considered practical. Other factors (still meets the S&M Basic Criteria and is rare) remain the same. The specific criterion met for assigning this species to Category A is (S&G page 7):

Criterion 1: Pre-disturbance surveys are practical. Surveys prior to initiation of habitat disturbance are considered “practical” if all of the following criteria apply (page 25, S&Gs): The taxon appears annually or predictably, producing identifying structures that are visible for a predictable and reasonably long time.

The taxon is not so minuscule or cryptic as to be barely visible.

The taxon can authoritatively be identified by more than a few experts, or the number of available experts is not so limited that it would be impossible to accomplish all surveys or identifications for all proposed habitat-disturbing activities in the Northwest Forest Plan area needing identification within the normal planning period for the activity.

The taxon can be readily distinguished in the field and needs no more than simple laboratory or office examination to confirm its identification.

Surveys do not require unacceptable safety or species risks.

Surveys can be accomplished in two field seasons (approximately 7-18 months).

Credible survey methods for the taxon are known or can be developed within a reasonable time period (approximately 1 year).

Rationale: New information indicates that surveys are practical: “People could be trained to survey for this species. Better keys and descriptions can be developed in the survey protocols. It is a very small species ...it does not require any special equipment or testing and is distinctive in the field” (Step 2). Three Step 3 panelists commented that surveys are now practical in their documentation of *Rationale* for their Step 3 votes. Based on this information, IMG concluded that surveys for this species are now considered practical.

Additional documentation

Three of 8 Step 3 panelists voted that pre-disturbance surveys are practical and voted for placement of this species in Category A. Although this is not a majority vote, the IMG reviewed the Step 2 information and concluded that surveys are practical. They referenced statements from the Step 2 notes such as “people could be trained to survey for this species” and “better keys and descriptions can be developed in the survey protocols” when making this recommendation.

Within this portion of the species’ range, known sites are almost all located in older coniferous forest.

SPECIES: *Dendriscoaulon intracatum***ROD Category:** E**ASR:** 2002**RECOMMENDATION (Coos, Curry, Douglas, Josephine, Jackson Counties, OR):** Remove from S&M mitigation**JUSTIFICATION:** The species does not meet the Basic Criteria for inclusion as an S&M species. One of the three Basic Criteria for S&M is not met (page 3, S&Gs). The Basic Criteria not met is:**Criterion 3:** The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Three of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites/records

Rationale: There were 489 new sites located since the last review in 2001 (Step 3 notes) throughout the NWFP area. Only 22 sites are known outside Coos, Curry, Douglas, Josephine, Jackson Counties (Step 2, page 6, Step 3 notes). This represents an increase exceeding 800% in these 5 Oregon counties. The total number of sites in combination with the number of sites discovered over the past year in this portion of the species range support the conclusion of a moderate-to-high number of likely extant sites/records.

Criterion 3: Sites are relatively well-distributed within the species range.

Rationale: Step 2 records the species distribution as well distributed in this portion of the species range (Step 2, page 7). This conclusion is based on maps of species locations reviewed during Step 2. Distribution is sufficient to permit normal biological function and species interactions.

Criterion 4: Matrix Standards and Guidelines or other elements of the Northwest Forest Plan provide for reasonable assurance of persistence.

Rationale: Even though most sites for this species are located outside of reserves (98.6% in this portion of the species range) the frequency of occurrence and distribution of the species and the availability of habitat in this portion of the species range is sufficient for a reasonable assurance of species persistence considering current Matrix Standards and Guidelines (Step 3 notes).

Additional documentation

The Step 3 Panel voted unanimously to remove *Dendriscoaulon intracatum* from the Survey and Manage List. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 unanimous vote. IMG agreed with the Step 3 Panel unanimous vote and recommended removal of the species from Survey and Manage.

Remainder of the Species' Range

There was no change in the species management status in the remaining part of the species range (Rest of Oregon outside Coos, Curry, Douglas, Josephine, Jackson Counties, Washington and California). The species remains in Category A in the rest of Oregon outside Coos, Curry, Douglas, Josephine, and Jackson Counties and Washington and Category E in California.

SPECIES: *Dermatocarpon luridum*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E

JUSTIFICATION: Meets all of the criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species is still considered rare (no change). Specific criteria for assigning a species to Category E are (page 12, S&Gs):

Criterion 1: The likely number of extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: Step 2 notes "No significant change in our understanding of distribution or rarity" (previous Category B status). Step 1 recorded that there has been no new information gathered on the number of Federal records/sites since the last species review. Only 18 known sites occur in NFP area (step 2 notes), 9 of which are on federal land. Five of the Step 3 panelists noted their agreement with this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: No new information presented in the FY01 ASR; in a March 2, 2000 memo the Step 2 panel states that "we are still uncertain" with regards to LSOG association. From the 1999 ASR, they stated, regarding seral stage that "habitat requirements too poorly understood to evaluate". Four of the Step 3 panelists commented that there is insufficient information to determine LSOG association.

Additional documentation

Three of the 8 Step 3 panelists voted for Category E, with one other splitting their vote 50% for E and 50% for A. (Two others voted to remove, 1 other for A and 1 more for B). The IMG reviewed the Step 2 and 3 information and concluded that the species should move to Category E. They based this recommendation on the rarity of the species (no new sites found since last ASR, only 18 sites total) and that information presented in previous ASRs indicates that LSOG association cannot be determined.

The 30-day comments from the Step 2 team indicate that there was no new information regarding LSOG association, and therefore Category should not change as a result. IMG recommended otherwise, based on the documentation in the previous years ASRs indicating that not enough information is available to assess LSOG association. The IMG considers that the species should have been placed in this category under a previous ASR, based on the information available in the step 2 notes.

A change to surveys practical is warranted (people can be trained – Step 2). "The taxa expert has had favorable experience with people locating this species after receiving training, particularly after having seen the species in the field" (Step 2 notes). This determination is, however, irrelevant for a change to Category E, but is noted here for documentation.

SPECIES: *Fuscopannaria saubinetii* (syn. *Pannaria saubinetii*) **ROD Category** F **ASR:** 2003

RECOMMENDATION (ENTIRE RANGE): Change to Category E.

JUSTIFICATION: All criteria for Category E are met (page 12 S&Gs). New information has documented that species is rare and that there is insufficient information to determine Basic Criteria 2 and 3. The specific criteria for placement into Category E are:

Criteria 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species.

Rationale: A taxonomic revision was recently published in a peer-reviewed journal accepted by the scientific community which divided the taxon *Pannaria saubinetii* into *Fuscopannaria*

saubinetii and *Fuscopannaria pacifica*. All of the 43 random grid sites documented as *Pannaria saubinetii* were re-examined and identified as *Fuscopannaria pacifica* based on this new taxonomy. There are 168 ISMS sites identified as *Pannaria saubinetii* that have not been re-examined. The taxonomic identity of these sites remains unknown. There are less than 5 sites confirmed as *Fuscopannaria saubinetii* in the NWFP area and it is considered rare based on the low number of likely extant sites.

Criteria 2: Information insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence.

Rationale: Until vouchers for the 168 ISMS sites are re-examined using the new taxonomy, it is not possible to determine whether the species is closely associated with late-successional or old-growth forest habitat or whether there is a concern for persistence.

Additional documentation

Seven of 7 Step 3 panelists voted to move this species to Category E with no conflicting documentation from 30 day review comments. The IMG reviewed the Step 2 and Step 3 information and concurred with the Step 3 unanimous vote.

SPECIES: *Hypogymnia duplicata*

ROD Category: A

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Change to Category C

JUSTIFICATION: All criteria for Category C are met. Species is now considered uncommon. Other factors remain the same (still meets the S&M Basic Criteria and pre-disturbance surveys are still practical). Specific criterion for assigning a species to Category C (page 10, S&Gs) is:

Criterion 1. Species is uncommon and not all known sites or population areas are likely to be necessary for reasonable assurance of species persistence.

The species is moved from rare to uncommon based on evaluation of the 5 criteria listed on page 10, S&Gs. Any one of the criteria may indicate an uncommon status. Criteria specifically met are:

1. Higher number of likely extant sites/records does not indicate rarity of the species.

Rationale: There are a moderate to high number of likely extant known sites in the Washington Western Cascades (minus Gifford Pinchot N. F.). There were 106 new sites reported in the NWFP area since the last review in 1999. Most of these (90 sites or 84%) are concentrated in the north Cascades of Washington. Many of these sites were discovered during the validation of a predictive habitat model (Step 2, page 5).

Step 2 estimated a low-to-moderate number of sites in other portions of the species' range. On seven national forests (Gifford Pinchot, Mt Hood, Willamette, Siuslaw, Umpqua, Deschutes, Winema), 840 Regional Air Quality CVS plots were sampled. Of the 840 plots sampled, there were 7 hits, all on the Mt. Hood and Siuslaw NFs. (Step 2 Worksheet, Reference 3a). This species has not yet been found on the Gifford Pinchot NF, although there are populations in similar habitat to the north and south (Step 2, page 2).

2. Low-to-high number of individuals per site. Step 2 records that there are a low-to-moderate number of individuals per site for the entire species range in the NWFP area.

Rationale: This conclusion is based on data included in ISMS records. Roughly two-thirds of the ISMS sites estimate the number of individuals to be rare to uncommon (Step 2, page 5).

3. Less restricted distribution pattern relative to range or potential habitat.

Rationale: Distribution is considered less restricted based on the species' distribution in Western Washington Cascades. *Hypogymnia duplicata* is found in 5 physiographic provinces in northern Oregon and Washington. It is considered well-distributed in the Western Washington Cascades except for the Gifford Pinchot National Forest (Step 2, page 8). This is based primarily on the 90 new sites documented in this portion of the species range since the last review. Distribution is sufficient to permit normal biological function and species interactions in this portion of the species range.

Distribution throughout the rest of the species range is described as limited and sparse (Step 2, page 8-9). Most of the 16 new sites occurring outside the Washington Western Cascades are located on the Mt. Hood N.F. Distribution of this species is spotty in the Oregon Coast Range and Olympic Peninsula. This species has not yet been found on the Gifford Pinchot NF, although there are populations in similar habitat to the north and south (Step 2, page 8). Although the species doesn't appear to be well-distributed outside of the Washington Western Cascades, the Taxa Team still considers it to be uncommon because the species is probably dispersal limited (Step 2 Worksheet, and Step 3 Panel discussion).

Additional documentation

Six of 8 Step 3 panelists voted to change the category of this species from A to C. One panelist voted to retain its Category A status; one panelist voted to remove the species from Survey and Manage. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and Step 3 majority vote. IMG agreed with the Step 3 Panel majority vote and recommended Category C for this species.

SPECIES: *Hypogymnia oceanica*

ROD Category: F

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding "little to no concern for persistence" (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci).

Rationale: From Step 2 notes, 456 sites, 441 of which occur on federal lands. Of these, 272 sites are new since the last ASR. In addition, 6 of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 3. Sites are relatively well distributed within the species range (2ciii).

Rationale: Six Step 3 panelists noted this criterion for OR/WA in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

Seven Step 3 panelists out of 8 agreed to remove. The IMG reviewed the Step 2 and 3 information and concurred with the recommendation to remove the species from S&M. The IMG noted the number of known sites, the number of sites discovered since the last ASR, the estimated detection rate of 6.3% and the potential of 159,000 sites ((21,000) (from Utah State analysis), in concluding that there is no persistence concern for this species.

One Step 2 panelist provided a 30-day review comment that the species is rare, to at best, uncommon. Another Step 2 30-day comment is “LSOG association possible (Utah State analysis); more data needed” and “At this time, Utah State analysis shows no association with reserve allocation” contained no conflict with Step 3 panel recommendations and the determinations above.

Additional information: Statistical surveys

Utah State analysis: 6.3% of the sites on the grid were occupied (159,000 potential 1 ha sites +/- 21,000) and the species showed no association with LSOG. Using the tentative guideline identified by population biology literature that above 5% level a species is not rare, there may not be a concern for persistence for this species when using solely population numbers. Other biological factors are considered with the population data to make a persistence determination. Preliminary CVS data summary: 2.6 % of the sites were occupied, however the grid points are considered to be outside the core portion of the range (see staff report by Agency Representative Russ Holmes Dec 3, 01). The IMG used the location of the CVS preliminary study as evidence that Utah State was correct.

SPECIES: *Leptogium burnetiae* var. *hirsutum*

ROD Category: A

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E

JUSTIFICATION: Meets all of the criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species rarity remains unchanged. Specific criteria for placement into Category E are (page 12 S&Gs):

Criterion 1: The likely number of extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: There is only one verified specimen of the taxon within the Forest Plan area (Step 2). All 8 Step 3 panelists noted that the species is rare in their documentation of *Rationale* for their Step 3 votes.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: From Step 2 notes, “LSOG association is uncertain” (page 10). All 8 Step 3 panelists noted agreement with this criterion in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

All 8 Step 3 panelists voted for this species to move to Category E. The IMG reviewed the Step 2 and 3 information and concurred with the recommendation to move this species to Category E. The IMG noted that the species is rare and that information is insufficient to determine whether the species is LSOG associated.

The 30-day review contained no conflict with the Step 3 panel results.

SPECIES: *Leptogium rivale*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E

JUSTIFICATION: Meets all the criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species rarity remains unchanged. Specific criteria for placement into Category E are (page 12 S&Gs):

Criterion 1: The likely number of extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: From the Step 2 notes, of 55 total known sites 35 are located on federal lands. Step 2 notes that there is “no new information accumulated... no significant change in our

understanding of distribution or rarity” since the last species review (step 2). Three of the Step 3 panelists noted that the species is rare in their documentation of *Rationale* for their Step 3 votes

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: Documentation in previous FY00 ASR indicates uncertainty about LSOG association and there is no new information on LSOG association in FY01. One of the Step 3 panelists noted agreement with this criterion in their documentation of *Rationale* for their Step 3 votes. Based on the uncertainty of LSOG association recorded in the 2000 ASR Step 2 notes and that no new information was obtained in 2001 to clarify the species association with LSOG, the IMG concluded that there was insufficient information to determine if the species was closely associated with LSOG.

Additional documentation

Step 3 votes were scattered: 3 to remove, 1 to F, 1 to C, and 2 for A. In addition, one panelist split their vote, with 50% for A and 50% for E. The IMG reviewed the Step 2 and 3 information and recommended moving this species to Category E due to the uncertainty of LSOG association as noted above. They determined that the species is still rare.

The 30-day comments contained no conflict with Step 3 panel recommendations.

A change to surveys practical is warranted (people can be trained – Step 2). “The taxa expert has had favorable experience with people locating this species after receiving training, particularly after having seen the species in the field” (Step 2 notes). Survey practicality is not criteria for placement into Category E, but is included here as documentation of this change in survey practicality.

SPECIES: *Lobaria limita*

ROD Category: A

ASR: 2002

RECOMMENDATION (WA WC, north of Snoqualmie Pass, OP): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the three Basic Criteria for S&M is not met (page 3, S&Gs). The Basic Criteria not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Two of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 2: High proportion of sites and habitat in reserve land allocations;

Rationale: In the main part of its range (Washington Western Cascades north of Snoqualmie Pass and the Olympic Peninsula) *Lobaria limita* is well protected because many sites occur in reserve allocations, 102 out of 119 sites (Step 2, page 9) and most of the federal land in this portion of the species range is in a reserve land use allocation (IMG notes).

Criterion 3. Sites are relatively well distributed within the species range.

Rationale: Step 2 concluded that the species was well distributed in this portion of its range (Step 2, page 5). There are a 131 known sites in this portion of the species range with 44 new sites recorded since last review in 1999 representing a 51% increase (Step 2, page 4,

Step 3 notes). Distribution of these sites is expected to permit normal biological function and species interactions in this portion of the range.

Additional information

The majority (5) of the Step 3 Panel voted to remove *Lobaria linita* in the Washington Western Cascades, North of Snoqualmie Pass and the Olympic Peninsula from Survey and Manage. A minority (3) voted to change its Category from A to C. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 majority vote. IMG agreed with the majority vote of the Step 3 Panel and recommended removal of the species from Survey and Manage.

Remainder of Species' range.

There was no change in the species management status in the remaining part of the species range (Washington Western Lowlands, Eastern Cascades, and Western Cascades south of Snoqualmie Pass; Oregon; and California). The species remains in Category A in these locations.

SPECIES: *Nephroma bellum*

ROD Category: F

ASR: 2001

RECOMMENDATION (Oregon: Western Cascades, Coast Range; Washington: Western Cascades (Gifford Pinchot NF only)): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci).

Rationale: From step 2 notes, 173 sites, 151 of which occur on federal lands. Of these, 45 sites are new since the last ASR. The IMG concluded that there is a moderate-to-high number of likely extant sites based on the total number of known sites, the number of known sites discovered since the last ASR and the estimated number of additional sites determined from the Utah State analysis discussed below.

Criterion 2: High proportion of sites and habitats in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii).

Rationale: From 1999 Step 2 notes, there is a “moderate” number of known sites in protective land allocations, and a “moderate” proportion of potential habitat in reserve within reserve land allocations. From the IMG review using ISMS data and mapping, they determined that 47% of the known sites are within protected land allocations in this part of the species range. Based on this information, IMG concluded that this criterion is met.

Criterion 3. Sites are relatively well distributed within the species range (2ciii).

Rationale: Step 2 notes considered the species “widely distributed” in Washington and Oregon. IMG concluded that this criterion is met based on this information.

Additional documentation

Five Step 3 panelists voted to remove this species in WA and OR north of Klamath Mountains and E. Cascades. There was no clear majority vote in the remaining part of the range.

The IMG recommended removing in part of the range based on the abundance of the species as determined through the Utah State analysis of statistical data:

Utah State analysis: 8.7% (+/-2%) of the sites on the grid were occupied (219,000 potential 1 ha sites +/- 49,000) and the species showed high association with LSOG. Using the tentative guideline identified by population biology literature that above 5% level a species is not rare/uncommon, there may not be a concern for persistence for this species when using solely population numbers.

Utah State analysis indicated that there was no association of this species' occurrence with LSR or matrix and is negatively associated with elevation. LSRs are likely to occur at higher elevations. In a different analysis, Utah State found that this species occurs more frequently at lower elevations. Confidence in the reserve system for providing persistence is uncertain.

SPECIES: *Nephroma bellum*

ROD Category: F

ASR: 2001

RECOMMENDATION (Oregon: Klamath, Willamette Valley, Eastern Cascades; Washington: Western Cascades (outside GP NF), Eastern Cascades, Olympic Peninsula): Change to Category E

JUSTIFICATION: Meets all of the criteria for Category E. Change in Category is based on information not being sufficient to determine Basic Criterion 3. Species changes in this portion of the range to rare. Specific criteria for placement into Category E are (page 12 S&Gs):

Criterion 1: The likely number of extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: Although this species is widely distributed in Oregon and Washington, there are a lack of verified sites in the southern part of the range and northern part of WA. Step 2 notes state "uncertain of the distribution in California as there are no verified sites". IMG concluded rarity of the species in the provinces listed above based on this information from Step 2.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: The IMG recommended that there is insufficient information in this part of the range to determine if the reserves are providing for persistence based on the Utah State analysis discussed below.

Additional documentation

Five Step 3 panelists voted to remove this species in WA and OR north of Klamath Mountains and E. Cascades. There was no clear majority vote in the remaining part of the range.

The IMG recommended removing in part of the range based on the abundance of the species as determined through the Utah State analysis of statistical data:

Utah State analysis: 8.7% (+/-2%) of the sites on the grid were occupied (219,000 potential 1 ha sites +/- 49,000) and the species showed high association with LSOG. Using the tentative guideline identified by population biology literature that above 5% level a species is not rare/uncommon, there may not be a concern for persistence for this species when using solely population numbers.

Utah State analysis indicated that there was no association of this species' occurrence with LSR or matrix and is negatively associated with elevation. LSRs are likely to occur at higher elevations. In a different analysis, Utah State found that this species occurs more frequently at lower elevations. Confidence in the reserve system for providing persistence is uncertain.

The 30-day review by the Step 2 team of the Step 3 votes noted that: the distribution in CA not understood, as there are no verified sites; it is premature to remove in a portion of range before in full range is understood.

SPECIES: *Nephroma occultum*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category A. Also, extend range 30 miles south to include South Umpqua River watershed and north Rogue River NF.

JUSTIFICATION: Meets all criteria for Category A. Surveys are now considered practical. Other factors (still meets the S&M Basic Criteria and is rare) remain the same. The specific criterion met for assigning this species to Category A is (S&G page 7):

Criterion 1: Pre-disturbance surveys are practical. Surveys prior to initiation of habitat disturbance are considered “practical” if all of the following criteria apply (page 25, S&Gs):

1. The taxon appears annually or predictably, producing identifying structures that are visible for a predictable and reasonably long time.
2. The taxon is not so minuscule or cryptic as to be barely visible.
3. The taxon can authoritatively be identified by more than a few experts, or the number of available experts is not so limited that it would be impossible to accomplish all surveys or identifications for all proposed habitat-disturbing activities in the Northwest Forest Plan area needing identification within the normal planning period for the activity.
4. The taxon can be readily distinguished in the field and needs no more than simple laboratory or office examination to confirm its identification.
5. Surveys do not require unacceptable safety or species risks.
6. Surveys can be accomplished in two field seasons (approximately 7-18 months).
7. Credible survey methods for the taxon are known or can be developed within a reasonable time period (approximately 1 year).

Rationale: The finding of survey practicality was a significant change from the previous species review, and Step 2 notes state “ It is easily recognizable. The litter fall surveys can be effective in determining presence or absence but have limitations in determining the exact location of the species in the canopy or the size and distribution of the population”.

Additional documentation

Due to 3 new records noted by the Step 2 panel, this species range is now extended 30 miles south including the South Umpqua River watershed and north Rogue River National Forest.

The IMG reviewed the Step 2 and 3 information and concluded that the species is considered rare, and surveys are now considered practical. The IMG recommended that this species moves to a Category A based on concerns for persistence, and that surveys are practical.

Additional information: Statistical surveys

Utah State analysis looked at species presence on a random grid survey. The design of the project was intended to determine relative species abundance based on the number of finds across this random grid. One and a half percent (+/-0.8%) of the plots on the grid were occupied (38,000 potential 1 ha sites +/- 21,000). The species showed very high association with LSOG. Using the tentative guideline identified by population biology literature that above 5% level a species is not considered rare, this species is considered rare. There may be a concern for persistence for this species when using solely population numbers. Other biological factors are considered with the population data to make a persistence determination.

SPECIES: *Nephroma occultum*

ROD Category A

ASR: 2003

RECOMMENDATION (ENTIRE RANGE): Change to Category C.

JUSTIFICATION: All criteria for Category C are met (page 7 S&Gs). New information indicates the species is now uncommon. Other factors remain the same (still meets S&M Basic Criteria and pre-disturbance surveys are still practical).

The species is considered uncommon because one of the six uncommon criteria apply. The criterion is:

Criteria 1. A higher number of likely extant sites/records does not indicate rarity of the species. *Rationale:* There are 168 known sites documented for this species in Step 2 (78 documented since the last review). Four of these sites were detected on the random grid. Step 2 documented that 168 known sites were low-to-moderate. The Step 2 panel also concluded that the estimated number of sites from that random grid data was also low-to-moderate based on the fact that 0.22% to 0.84% of all ½ acre plots in the NWFP would be expected to be occupied though a full analysis of random grid data was not completed. The majority of IMG concluded that there were a moderate-to-high number of estimated sites based on the fact that 0.22% to 0.84% of all ½ acre plots represents 93,300 to 360,500 sites in the NWFP area.

Additional documentation

IMG concluded in their review that changing to Category C did not add extra risk to the species at this time and that it will be re-examined in the next Annual Species Review after the statistical data are analyzed and interpreted.

SPECIES: *Platismatia lacunosa*

ROD Category: C

ASR: 2002

RECOMMENDATION (OR CR): Remove from S&M mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the three Basic Criteria for S&M is not met (page 3, S&Gs). The Basic Criteria not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Three of the four criteria indicating no concern for persistence are met in this portion of the species range. These criteria are:

Criterion 1: Moderate to high number of likely extant sites/records.

Rationale: Even though the current number of likely extant sites on federal land in the Oregon Coast Range Province is low to moderate (Step 2, page 6), the estimated number of estimated occupied sites is considered moderate to high. This is based on statistical analysis of data collected from 840 Air Quality CVS plots on seven National Forests (Gifford Pinchot, Mt Hood, Willamette, Umpqua, Deschutes, Winema, Siuslaw). There were 18 detections in this study most of which occurred in the Oregon Coast Range Province. This study estimated 133,164 sites, + 31,050 sites, in that seven forest area (Edwards et al. 2002). Most of these sites would be expected to occur in the Oregon Coast Range since there were few detections outside the province. *P. lacunosa* was also found on 19 of 100 random grid plots on BLM and Forest Service lands in the Oregon Coast Range province (Step 2, page 6). Though statistical analyses have not been completed for these data, this is a high detection rate and supports the conclusion of a moderate-to-high number of sites in this province.

Criterion 2: High proportion of sites and habitat in reserve land allocations.

Rationale: A high proportion of sites and habitat have been documented in reserves. Edwards et al. (2002, Step 2, page 7) suggest a strong association with reserve lands (14 out of 18 sites); most of the sites for this species were in the Oregon Coast Range. The proportion of habitat in reserves is also high in the Oregon Coast Range. In addition, the species was located in 15-20% of the acres surveyed in reserve land use allocations in the Oregon Coast Range.

Criterion 3: Sites are relatively well distributed within the species range *Rationale:*

Platismatia lacunosa is relatively well distributed in the Oregon Coast Range (Step 2, page 6-7). Of the 21 random grid plots having *P. lacunosa*, 19 occur in the Oregon Coast Range province. Over half (55%) of sites contained in ISMS occur in the Oregon Coast Range (Step 2, page 9). These data in combination with maps documenting distribution of the species support the conclusion the species is well distributed in the Oregon Coast range.

Additional documentation

Six of eight Step 3 panelists voted to remove this species from Survey and Manage in this portion of the species range. One panelist voted for Category E and another panelist voted for Category F. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 majority vote. IMG agreed with the Step 3 majority vote and recommended removal of *Platismatia lacunosa* from Survey and Manage in the Oregon Coast Range physiographic province.

SPECIES: *Platismatia lacunosa*

ROD Category: C

ASR: 2002

RECOMMENDATION (Rest of Range): Change to Category E

JUSTIFICATION: All criteria for Category E are met. The species is considered rare in this portion of its range and there is uncertainty about its association with LSOG. Specific criteria for assigning a species to Category E (page 12, S&Gs) are:

Criterion 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species.

Rationale: There are a low to moderate number of likely extant sites on federal lands (33 sites in ISMS). In addition, there are a low to moderate number of individuals overall and at most sites and populations (Step 2, page 5-6).

There is a low to moderate number of estimated occupied sites. Although there are estimates of numbers of sites for this species from the seven forest area (Siuslaw, Willamette, Mt. Hood, Gifford Pinchot, Deschutes, Winema, and Umpqua), only a few of the records for this species occurred outside the Oregon Coast Range. Therefore, assuming a similar distribution of sites throughout the study area, few of the estimated sites would be outside the Oregon Coast Range. (Step 2, page 6).

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence.

Rationale: Steps 2 and 3 document the uncertainty about LSOG association. Edwards et al. 2002 analyses showed a positive but not significant association with LSOG (Step 2, page 4) but most of the plots analyzed were in the Oregon Coast Range physiographic province (Step 3 notes). The taxa expert reported during Step 3 panel discussions that the species is found on younger trees in riparian forest that are in close proximity to older stands and is also found on hardwood trees in LSOG upland sites. Step 2 documented the species to be found more frequently on red alder and other hardwoods (Step 2, page 4) and on shrubs in late successional conifer forests as well as on alder and other hardwoods in early- to mid successional forests on the coast. (Step 2, page 5).

about 3 % of coastal sites in Washington (Step 2, page 5). This lichen is known to occur within 3 miles of the ocean, primarily in Oregon and California

The Coastal Lichen Study (Step 2, page 1 and 4) found this species to occur in a range of forest ages, including LSOG and young forest. The analysis determined that the proportion of sites and the abundance ratings at these sites were not different between young and old forest habitat (trees ranging from 25 – 275 years). *Pyrrhospora querneae* occurred as frequently in non-LSOG as in LSOG. A logistical regression analysis of 50 sites (randomly selected plus other sites) did not identify age as an important variable in the prediction of suitable habitat.

Additional documentation

The Taxa Team believes that there is some concern for persistence of this species. There are only about 50 extant sites, limited to the immediate coast, primarily in Oregon and northern California. It has a very narrow ecological amplitude and range. Few of the known locations are in protected land allocations, with most sites and potential habitat in state parks, on private lands, and at other non-federally managed locations. Concerns for persistence remain primarily from the loss of habitat on private lands to development, other habitat disturbing activities such as recreation (e.g. ORV in dune forests) or other management activities (e.g. expansion of recreational facilities) that reduce Sitka spruce or shorepine (lodgepole) along the coast.

The Step 3 Panel voted unanimously to remove this species from Survey and Manage. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 unanimous vote. 30 day comments from the taxa lead and taxa expert did reiterate the concern for persistence. IMG agreed with the Step 3 panel unanimous vote and recommended removal of the species from Survey and Manage.

SPECIES: *Ramalina pollinaria*

ROD Category: E

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; manage known sites until special status species review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the three Basic Criteria for S&M is not met (page 3, S&Gs). The Basic Criteria not met is:

Criterion 2: The species must be closely associated with late-successional or old-growth forest.

Current information indicates that *Ramalina pollinaria* is not closely associated with late-successional and old-growth forest. The species is not associated with LSOG forest or LSOG forest components.

Rationale: The species is neither habitat nor substrate specific (Step 3 notes). The species is not restricted to conifers and is found in shrub thickets. The Coastal Lichen Study found this species occurs in a range of forest ages including LSOG (Step 2, page 1 and 4). Of the 11 random grid plots in the study where the species was recorded, 6 were in non-LSOG and 5 were in LSOG, about the same proportion as the ratio of LSOG to non-LSOG plots in the study. The analysis determined that the proportion of sites was not different between young and old forest habitat. Also a logistical regression analysis of all 15 sites (randomly selected plus other sites) in the study did not identify age as an important variable in the prediction of suitable habitat. Field observations indicated that this might be a pioneer species in the California part of its range.

Additional documentation

There continues to be a concern for persistence for this species. Step 2 (page 1-2) states that the totality of the Northwest Forest Plan does not provide for a reasonable assurance of persistence. There are only about 15 extant sites and all sites are restricted to the immediate coast, primarily in California with a few sites in Oregon. The taxa lead and taxa expert affirmed the concern for

persistence in their 30 day review comments. They stated that Step 2 determined the species to be rare on the basis that there are only 15 known sites and that persistence was also a concern because of there is a low number (3) of sites on federal land and the species is habitat specific occupying a narrow strip of coastal habitat that is mostly in state and private land ownership.

The Step 3 Panel voted unanimously to remove this species from the Survey and Manage List. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 unanimous vote. IMG agreed with the Step 3 panel unanimous vote and recommended removal of the species from Survey and Manage.

SPECIES: *Ramalina thrausta*

ROD Category A

ASR: 2003

RECOMMENDATION (ENTIRE RANGE): Remove from S&M Mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Two of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: The Step 2 worksheets documented a total of 327 sites in the NWFP area (295 new since the last review). Fifteen of these were detected in random grid strategic surveys. Step 2 concluded that 327 known sites were low-to-moderate but were uncertain on whether the estimated number of known sites was low-to-moderate or moderate-to-high. Statistical analysis of the random grid data estimated 1.4% to 3.0% of all ½ acre plots would be expected to be occupied in the NWFP area though a full analysis of random grid data was not completed. IMG concluded that there were a moderate-to-high number of estimated sites based on the fact that 1.4% to 3.0% of all ½ acre plots represents between 619,200 and 1,294,400 sites in the NWFP area.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented 60% of random grid sites in reserve land allocations. Although Step 2 stated that they were uncertain whether there is a high proportion of sites and habitat in reserves, IMG felt there was limited risk in concluding that the proportion of sites and habitat was high when the proportion of random grid sites in reserves (60%) was considered along with the rate of detection on the random grid.

Additional documentation

No additional documentation.

SPECIES: *Usnea hesperina*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to E

JUSTIFICATION: Meets all criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species rarity remains unchanged. Specific criteria for placement into Category E are (page 12 S&Gs):

Criterion 1: The likely number of extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: From the Step 2 notes, there are 24 total known sites in the NFP area, 16 on Federal lands. Fourteen of these sites are new since last ASR. Seven of the Step 3 panelists noted agreement with this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: Documentation in previous FY00 ASR indicates uncertainty about LSOG association and there is no new information in FY01. 2001 Step 2 notes state, “Our data does not suggest an LSOG association, but we only have adequate stand age data from 10 sites.” Seven of the Step 3 panelists noted agreement with this criterion in their documentation of *Rationale* for their Step 3 votes. Based on the uncertainty of LSOG association recorded in the 2000 and 2001 Step 2 notes,

Additional documentation

Six of the 8 Step 3 panelists voted for placement into Category E. The IMG reviewed the step 2 and 3 information and concurred with the Step 3 panel’s recommendation. The IMG noted that the species is still considered rare, but that there is an uncertainty of LSOG association as recorded in the 2000 and 2001 Step 2 notes. Based on this uncertainty, the IMG concluded that there was insufficient information to determine if the species was closely associated with LSOG.

In a 30-day comment, 2 Step 2 panelists question whether there is sufficient new information to move this species from Category B to E. However IMG recommended that the species had been misclassified in previous ASRs, as the uncertainty presented in the Step 2 notes warrants placement into Category E.

A change to surveys practical is warranted (people can be trained – Step 2). “A surveyor with adequate training (at least five day course in general lichen training and a botanical background) can identify this in the field. This species does have distinctive field characteristics” (Step 2 notes). This information on survey practicality is irrelevant to a change to Category E, but is included here for documentation.

VASCULAR PLANTS

SPECIES: *Corydalis aquae-gelidae*

ROD Category: C

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Change to Category A

JUSTIFICATION: All criteria for Category A are met. Species is now considered rare. Other factors remain the same (still meets the S&M Basic Criteria and pre-disturbance surveys are still practical). Specific criteria for assigning a species to Category A (page 7, S&Gs) are:

Criterion 1: The species is rare and all known sites or population areas are likely to be necessary to provide reasonable assurance of species persistence, as indicated by the following (page 7-8, S&G):

1) Low number of likely extant sites on federal lands indicates rarity.

Rationale: The Step 2 Worksheet and ISMS database indicate a total of 110 sites. Surveys since last review have not discovered many new sites and all known sites are considered necessary for persistence (Step 3 notes). Most of the potential habitat on federal land has been surveyed and it is unlikely that many new sites will be discovered (Step 2, Condition Category 6, #2 and 6).

2) Species poorly distributed within its range or habitat.

Rationale: *Corydalis aquae-gelidae* occurs on three national forests and one BLM district within the Western Cascades Physiographic Provinces of Oregon and Washington. The range represents approximately 2 percent of the Northwest Forest Plan area. This species is poorly distributed within its range. Ninety percent of the population (99 of 110 of known sites) occurs within a two county area (Clackamas and Skamania). The southern portion of the known range is represented by nine outlier populations, the southernmost being 56 miles from its closest neighbor (Step 2, Condition Category 7, #2).

3) Highly specialized habitat requirements (narrow ecological amplitude).

Rationale: This species occupies seeps, springs and stream habitats where there is relatively cold water, a substrate of cobbles, gravel and/or sand, partial shading, and little vegetative competition (Step 2 Worksheet, Condition Category 6, #10). Stream channels are dynamic features. For *Corydalis aquae-gelidae* to establish and reproduce, microsites must remain stable for a number of years. Large downed wood in the stream channel influences the channel stability (Step 2, Condition Category 2, #3).

4) Dispersal capability limited relative to federal habitat.

Rationale: The dispersal capability of this species is limited. This species is insect pollinated with limited capability for genetic flow. All known sites are needed to maintain connectivity and biological interactions among populations (Step 2, Condition Category 6, #4).

5) Microsite habitat limited.

Rationale: Microsite habitat is naturally limited (Step 2, Condition Category 6, #14). The species needs large woody debris in the stream course, cold water, cobble, gravel and/or sand substrates, and limited competition from other vegetation (Step 2, Condition Category 6, #10). Shading on the channel may be important to provide cooling of water temperatures (Step 2, Condition Category 2, #2).

6) Reproduction or survival not sufficient.

Rationale: *Corydalis aquae-gelidae* is an insect-pollinated species, and its reproduction and gene flow are restricted as distances between population areas increase (Step 2, Condition Category 6, #4).

7) Low number of sites in reserves or low likelihood of sites or habitat in reserves (reserves=LSR and Congressionally withdrawn land).

Rationale: There is not a greater proportion of habitat within reserves or a high probability that the potential habitat is occupied. Habitat for this species is specific to seeps, springs and streams which do not have a greater likelihood of occurrence in reserves. Searches for this species have been conducted for 25 years and have not been restricted to matrix (most potential habitat has been surveyed). Twenty five percent of the known sites occur in reserves and it is unlikely that there are many undiscovered populations in reserves (Step 2, Condition Category 6, #10).

8) Habitat fragmentation that causes genetic isolation.

Rationale: *Corydalis aquae-gelidae* populations occur in a very patchy (clumped) distribution across its range (ISMS Report 2). This may lead to genetic isolation and drift. Populations within the Oak Grove Fork of the Clackamas River have been found to be genetically isolated (Kaye, 2001, Step 2 citation). Populations in the southern portion of the range, in particular, are physically isolated. The Lane County site is 56 miles from the next nearest population (Step 2, Condition Category 6, #2).

Additional documentation

The Step 3 Panel voted unanimously that a category change from C to A was justified. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2

analysis and the Step 3 unanimous vote. IMG agreed with the Step 3 Panel unanimous vote and recommended a category change from C to A. No range change was noted.

SPECIES: *Cypripedium fasciculatum*

ROD Category: C

ASR: 2002

RECOMMENDATION (WA EASTERN CASCADES): Remove from S&M mitigation; manage known sites in accordance with special status species policies.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criteria # 2) for S&M is not met (page 3, S&Gs). The Basic Criterion which is not met is:

Criterion 2: The species must be closely associated with late-successional or old-growth forest.

Current information indicates that *Cypripedium fasciculatum* is not closely associated with late-successional and old-growth forest. The species is not associated with LSOG forest habitat or LSOG forest components.

Rationale:

- 1) There are currently 147 known sites of *Cypripedium fasciculatum* located in the Wenatchee Mountains of Washington. Of these, 130 are located on the Lake Wenatchee and Leavenworth Ranger Districts. Of 117 sites on the Leavenworth Ranger District, 67 sites were reviewed for LSOG association and none were found to be closely associated with late successional and old-growth forest (Information source 3e, Step 2 Worksheet). In addition, local experts concluded that very few of the additional 50 sites on the District are associated with LSOG (Information source 6b, 6c).
- 2) In the Washington Eastern Cascades the species does not appear to require habitat components (such as mycorrhizal fungi) contributed by current late-successional or old-growth forest (from Step 2 Worksheet).
- 3) In the Washington Eastern Cascades, the habitat for *Cypripedium fasciculatum* is not limited, nor does the species appear to occupy a narrowly defined niche. Its habitat is broadly defined, and is based on above-ground information (from Step 2 Worksheet)

Additional documentation

Step 3 panelists voted unanimously that *Cypripedium fasciculatum* should be removed from the Survey and Manage list because the species is not considered closely associated with LSOG in this portion of its range. There was disagreement among Step 3 panelists concerning persistence issues. Step 2 indicated there still may be a concern for persistence in this portion of the species range for a variety of reasons: low to moderate numbers of individuals at most sites; distribution within habitat and within Washington Eastern Cascades is poor; and the occupation rate for habitat in reserves is low. Reviewers contributing to the 30-day review process recorded no conflicts between Step 2 analysis and the Step 3 unanimous vote. IMG agreed with the Step 3 Panel unanimous vote and recommended removal of the species from Survey and Manage in this portion of its range.

Remainder of the species' range

There was no change in the species management status in the remaining part of the species range (Washington outside Eastern Cascades, Oregon and California). The species remains in Category C in the rest of its range.

SPECIES: *Cypripedium montanum*

ROD Category: C

ASR: 2001

RECOMMENDATION (Eastern WA): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for a Survey and Manage species is not met. Basic Criterion 2 specifically is not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 recorded that both regional and local analyses have been performed to determine the relationship between *C. montanum* and LSOG. Results of An “exploratory” chi-square analysis [not a stand alone analysis] indicated that this species may not be associated with LSOG habitat except in the Klamath Mtn physiographic province of Oregon and California. The Wenatchee and Okanogan NF’s conducted a more localized investigation within the eastern Cascades of Washington. They intersected GIS layers (LSOG allocations) with known sites of *C. montanum* and found that only 7.6% of the sites were associated with LSOG and concluded that the species was not closely associated with LSOG in the eastern Cascades of Washington. In addition, 4 out of 5 Step 3 panelists noted that “the species is not closely associated with late-successional or old growth forest” in eastern Washington and 5 out of 5 Step 3 panelists voted to remove the species in this part of the range.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation in Eastern WA. The IMG reviewed the Step 2 and 3 information and *Rationale*, and concurred with the Step 3 panel’s recommendation to remove this species from S&M mitigation in the eastern Cascades of WA. Even though most of the data east of the Cascades was considered anecdotal, the IMG agreed that there was enough data to conclude there was no LSOG association in this part of the species range. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in S&M mitigation: The species is not LSOG associated.

There were three comments from the 30-day review by taxa specialists, and/or Step 3 panelists. None however, were range specific to the eastern Washington Cascades. The comments were: 1) The species is significantly more abundant in LSOG in a portion of its range (therefore it meets the S&M Basic Criteria), 2) It is unknown if species may reach it’s highest abundance in LSOG or requires related habitat components, and, from a Step 3 panelist 3) could they change their Step 3 vote, as they feel there is insufficient information to determine if species is LSOG associated, considering most information is anecdotal. The panelist would like their vote changed to Category D throughout the whole range until strategic surveys can be conducted. The IMG reviewed these comments and agreed that the species is likely still associated with LSOG in the other portions of the range, and would still remain as a Category C species in those areas. As for the 3rd 30-day comment above, the desire of the Step 3 panelist to change their vote is noted, and is shown in the administrative record, but the original Step 3 votes remain as the recommendation for the outcome of this species.

Remainder of species’ range

In the remaining part of the species range, no change in species category was noted. The species continues to be in Category C outside of the eastern Cascades of Washington.

MOLLUSKS

SPECIES: *Ancotrema voyanum*

ROD Category E

ASR: 2003

RECOMMENDATION (ENTIRE RANGE): Remove from S&M Mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Two of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: The Step 2 worksheets documented a total of 285 sites in the NWFP area, 29 of these were detected in random grid strategic surveys. Step 2 documented that 285 known sites were low-to-moderate (page 8) and moderate (page 16) based on a low rate of detection and because 237 of the sites had no voucher specimens. The Step 2 panel also concluded that the estimated number of sites from that random grid data was also low-to-moderate but did not provide any *Rationale* except to note that strategic surveys estimated 171,946 (\pm 33,561) hectares of occupied habitat throughout the species range in the NWFP area. IMG concluded that there were a moderate-to-high number of estimated sites based on the fact that the species is limited to the California portion of the NWFP and was detected on 7.37% of all strategic survey plots in California representing 138,385 to 205,507 sites.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented that 62% of all known sites (177 sites) occur in reserve land allocations. Step 2 concluded that the amount of habitat in reserve land allocations (48%) was moderate. IMG felt there was limited risk in concluding that the proportion of sites and habitat was high when the proportion of sites in reserves (62%) and the amount of potential habitat (48%) was considered along with the rate of detection on the random grid.

Additional documentation

Step 2 documented that the number of known sites and the rate of detection may be an underestimate of abundance because the species was not included in all pre-disturbance surveys and because strategic surveys predicted relatively higher abundance for the species. In response to a question from a Step 3 panelist regarding the identity of unverified sites (sites without vouchers) the taxa expert and taxa lead said that, “some of the sites may be wrong but doubt that it is a large proportion” and that the species “can be identified in the field by an experienced surveyor.”

SPECIES: *Fluminicola* n. sp 1

ROD Category: A

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Of the 27 sites, 25 are in or around Upper Klamath Lake, the remaining 2 are within the western Cascades in CA (from Step 2 notes). All “27 sites on rocky bottoms of lakes and streams with some water flow as from spring influx”, page 4 Step 2 notes. Also, “Using aerial photos, it appears that the majority of known sites are not near forests. The importance of upland watershed condition to the quality of the site is very obscure, and thus late seral association is not valid”, page 6. All 8 Step 3 panelists noted that the species is not closely

associated with LSOG in their documentation of *Rationale* for their Step 3 votes. In addition, seven of the Step 3 panelists noted “that the species is not significantly more abundant in late-successional or old growth forest than in young forest”, and 6 panelists noted that “the species does not reach highest abundance in late-successional or old growth forest and does not require habitat components that are contributed by late-successional or old-growth forest”.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the recommendation of the Step 3 panel to remove the species. One of the 3 Basic Criteria for S&M mitigation is not met: The species is not closely associated with LSOG.

No conflicts noted during 30-day review of the Step 3 panel results to remove the species.

SPECIES: *Fluminicola n. sp 2*

ROD Category: A

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest.

Rationale: It is known from only one site (aquatic; not on FS or BLM lands), and other suitable habitat within the vicinity has been thoroughly surveyed with no additional finds (Step 2 notes). There was an effort to find additional sites, and since the only known site is not on federal lands nor is it in LSOG, it is reasonable to assume that this species does not meet criterion 2 “The spring where this species is located is adjacent to an established resort and boat marina on upper Klamath Lake; surrounding vegetation consists of willow, aspen and sedge/grass”, (page 6, Step 2 notes). Also, from page 12, “...a close association with LSOG is not apparent...”, from page 13, “...its association with LSOG is not clear”, and from page 14 “its association with LSOG or old-growth legacy is not apparent.” All 8 Step 3 panelists noted that the species is not closely associated with LSOG in their documentation of *Rationale* for their Step 3 votes. In addition, seven of the Step 3 panelists noted “that the species is not significantly more abundant in late-successional or old growth forest than in young forest”, and 6 panelists noted that “the species does not reach highest abundance in late-successional or old growth forest and does not require habitat components that are contributed by late-successional or old-growth forest”.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the recommendation of the Step 3 panel to remove the species from S&M. One of the 3 Basic Criteria for inclusion as S&M mitigation is not met: The species is not closely associated with LSOG.

No conflicts noted during 30-day review of the Step 3 panel results to remove this species from S&M mitigation.

SPECIES: *Helminthoglypta hertleini*

ROD Category: B

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E; however, continue conducting equivalent effort surveys for this species (page 32 S&Gs direct this mitigation as long as the species remains in Category B or E, and strategic surveys are not yet completed).

JUSTIFICATION: Meets all of the criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species rarity remains unchanged. The species is still considered not practical to survey for, but requires equivalent effort surveys. Specific criteria for placement into Category E are (page 12 S&Gs):

Criterion 1: The likely number of extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: From Step 2 notes, there are 59 known sites for this species, 44 of which are on federal lands. In addition, “significant number of project clearance surveys have been conducted in both states which have failed to find new sites” (Step 2 notes). Also, “GOBIG and GOBIG2K surveys have found only 2 locations out of a total of 345 plots”. All 8 Step 3 panelists noted that the species is rare in their documentation of rationale for their Step 3 votes, with 7 also noting that there is a “low number of likely extant sites/records on federal lands”.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aai).

Rationale: “All locations are typically associated with large down wood and rocky features near or within forest stands” (Step 2 notes). Also, “Seral stage association is not well defined. Douglas Co. records describe habitat as PSME, 90+ yrs old, however personal observations at a few CA sites report no conifer cover is present”, (page 6 Step 2 notes). Seven of the Step 3 panelists noted agreement with this criterion in their documentation of rationale for their Step 3 votes.

Additional documentation

Six of the Step 3 panelists voted for placement of this species into Category E. In addition, one panelist split their vote, with 60% for Category E. The IMG reviewed the Step 2 and 3 information and agreed with the Step 3 panel recommendation to remove this species from S&M. One of the 3 Basic Criteria for inclusion as S&M mitigation is not met: The species is not closely associated with LSOG.

The 30-day review comments from the Step 2 panel state “Concur with comments on questionable LSOG association”. Moving this species to Category E will not reduce the level of protection for the species, as “equivalent effort” surveys are still required as are strategic surveys, which are currently underway for this species. Known sites will continued to be managed.

SPECIES: *Helminthoglypta hertleini*

ROD Category: E

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Remove from S&M list; manage known sites until special status species review is completed.

JUSTIFICATION: Species does not meet the S&M Basic Criteria 2 (S&G, pg. 3). Biological range extension includes the Swiftwater FO in Roseburg BLM and the range contraction to the south has been documented.

Basic Criteria 2: The species must be closely associated with late-successional or old-growth forest.

Rationale: New analysis of site data suggests that the species is not associated with LSOG forest or components. A majority of known sites are not found in LSOG habitat and do not depend on LSOG habitat elements for persistence (Step 2, Executive Summary, #2). Step 2 documented 52% of the sites in Oregon and 56% in California occurring in stands less than 80 years old. Step 2 also documented that the most common feature types listed in ISMS are talus, rock, cobble, and rock outcrops. Only one record listed down woody debris as a feature type.

A concern for persistence remains for this species.

Additional documentation

Eight of the eight Step 3 panelists voted to move this species off S&M. The IMG reviewed the Step 2&3 information and agreed with the unanimous vote of the Step 3 panel. 30-day review comments contained no conflict with Step 3 panel recommendations.

Range change noted

Step 2 panelists documented that the range of the species has been extended to include the Swiftwater FO of Roseburg BLM. The range has been contracted to exclude the Klamath FO of Lakeview BLM, Arcata FO of NorCal BLM, Weaverville RD, Big Bar RD, Hayfork RD in Shasta-Trinity NF, and all of Six Rivers NF.

SPECIES: *Helminthoglypta talmadgei*

ROD Category: A

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category D

JUSTIFICATION: All criteria for Category D are met. Change in Category is due to an increased number of known sites, moving this species from rare to uncommon. Other factors (still meets the S&M criteria, and is considered practical to survey for) remain unchanged. Pre-disturbance surveys, however, are no longer needed to help maintain persistence. Specific criteria for placement into Category D are (page 11, S&Gs):

Criterion 1: Meets the same as Criteria C, except that pre-disturbance surveys are not practical or are not necessary to meet objectives for species persistence because inadvertent loss of some undiscovered sites would not change level of rarity (7b).

The species moved from rare to uncommon, as evaluated against the 5 criteria for uncommon listed on page 10, S&Gs. Items specifically met are:

1. A higher number of likely extant sites/records does not indicate rarity of the species (7bi).

Rationale: Step 2 notes indicate 303 total sites, all considered extant. The Step 2 panel states, "this species has a moderate number of location records". Four of the Step 3 panelists noted that the species is considered uncommon as opposed to rare in their documentation of *Rationale* for their Step 3 votes, and 4 noted agreement with this criterion.

Since the initiation of the FY01 ASR and after the Step 3 votes, 155 new sites were located and verified within the Klamath NF alone. This brings the site total to approximately 458.

In addition to meeting the uncommon criteria, placement in Category D requires pre-disturbance surveys to be impractical or are not needed. Species is still considered practical to survey for, but surveys are not needed.

Rationale: As indicated in Step 2, habitat is 4500' elevation and below, oak/conifer woodland. The IMG concluded that based on these very broad habitat characteristics, there is a large amount of suitable habitat for this species, and a high likelihood there are many more individuals of this species within the species range. There are currently a large number of sites within limited distribution.

In addition, the IMG recommended that the continuation of pre-disturbance surveys is not likely to provide new information, e.g. persistence in reserves. Strategic surveys need to target the reserves to help determine abundance and distribution, to see how well the reserve network provides for persistence of the species.

Additional documentation

Step 3 panel votes were very scattered, with no clear recommendation made. Category D received the most votes with 2.5, and there were more Step 3 votes for pre-disturbance surveys not being practical or not being needed (3.75) than for pre-disturbance surveys being practical (2.25). This voting pattern supports moving to a Category D (most votes are for D and more panelists voted that surveys are not needed/not practical). The IMG reviewed the Step 2 and 3

information, and recommended that the species should move to Category D. The IMG concluded that with this category change from Category A to D that this would still maintain a reasonable chance of persistence for this species based on the high number of sites currently known, the high amounts of suitable habitat that have no surveys completed but are likely occupied, and the high likelihood that this species will be found in large numbers within the reserve lands. The IMG determined that pre-disturbance surveys were not needed because sufficient information has been collected to identify high-priority sites needed for continued species persistence (2001 ASR IMG summary), and that the inadvertent loss of undiscovered sites will not affect persistence and the loss of additional but currently undiscovered sites are not needed to help maintain persistence.

The Step 2 panel brought up the concern that prescribed fire may result in a risk to persistence resulting from the inadvertent loss of sites. The IMG assumed that this risk is low because the species is associated with a fire regime in LSOG oak, in areas where the fire return interval is between 15-30 years. It is likely that this species has evolved/adapted over time with the presence of fire in the ecosystem, and has not moved into the area recently as a result of fire suppression. This is due to the low dispersal capability of most snails.

The 30-day review from the Step 2 team states, “Additional new sites have been added since the Step 2 review. Although, the number of sites, including the new data, are within the moderate range previously considered to be uncommon for mollusks, other data (i.e., two separate genetic populations, limited dispersal ability, limited range), indicate rarity (Step 2 notes).” In the IMG review of the Step 2 information, they concluded in looking at the ISMS maps that the species is well distributed, and abundant within that distribution. A 30-day comment from a reviewer of the Step 3 votes also pointed out that the ISMS maps of known sites indicate that the species is well distributed, and that the range is not limited (the Trinity Alps separate the two populations. The Trinity Alps has been a natural “barrier” for 250 million years). This reviewer also commented that the Step 2 postulation about the potential effects of fire upon this species is not well founded, with flawed scientific *Rationale*. Her comments point out that the study design used to imply that fire effects on this species are negative did not look at pre and post population numbers, instead focusing on the presence of empty shells as evidence that the fire caused mortality. The reviewer points out that it is inappropriate to infer that the shells indicate mortality through fire, as the exact cause of death is unknown.

SPECIES: *Hemphillia burringtoni*

ROD Category: A

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E

JUSTIFICATION: Meets all of the criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species rarity remains unchanged. Specific criteria for placement into Category E are (page 12 S&Gs):

Criterion 1: The likely number of extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: There are only about 11 observations of this species from 9 locations in the last 40 years. Due to the age of those records and lack of site information (the only site with recorded site information is on National Park lands), it is unknown if those sites are still extant (Steps 2/3). Also, from Step 2 notes “...the species is much rarer than previously thought...” All 8 Step 3 panelists noted that the species is rare in their documentation of *Rationale* for their Step 3 votes, and that there are a “low number of likely extant sites/records on federal land”.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: From Step 2 notes, “Do not know what the habitat is”, also “Very little habitat data was recorded with the historic records, and there is too little information available on habitat

and ecology of *H. burringtoni* to propose valid recommendations. There are currently insufficient records to determine whether or not NFP land allocations and standards and guidelines would ensure persistence of this species." All 8 Step 3 panelists noted agreement with this criterion in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

Seven of the 8 Step 3 panelists voted to move this species to a Category E. In addition, one other panelist split their vote, with 50% for Category E. The IMG reviewed the step 2 and 3 information and agreed with the Step 3 panel recommendation to move this species to a Category E. They concluded that the species is rare, and that there is not enough information to determine LSOG association.

The 30-day review comments from the Step 2 panel state, "Although the historic records for this species lack habitat data for specific sites, LSOG association seems highly probable", but also "Step 3 conclusions are justified based on Step 2 answers."

SPECIES: *Hemphillia glandulosa*

ROD Category: C

ASR: 2001

RECOMMENDATION (WA, Olympic Peninsula province; OR, Coast Range province):
Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. Two of the 3 Basic Criteria for being a Survey and Manage species (page 3, S&Gs) are not met. The two Basic Criteria specifically not met are:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: Step 2 notes state "Closely associated with old-growth legacy (woody debris, forest floor mosses and litter, closed canopy) and very moist forest conditions. However, it is commonly found in closed second growth stands with an abundance of these components" (Step 2 notes). Also, "The vast majority of new sites are in second growth forests, primarily Douglas-fir in 40-60 year old stands; there are a small number of old-growth sites, and several sites in very young forest plantations (ages 11-12 years); one site in a garbage dump and one in a road culvert." And, "Documented sites are almost entirely in younger forests, rather than late-successional...unable to determine strength of association with LSOG due to lack of survey effort..." Two of the Step 3 panelists noted that the species is not closely associated with LSOG in their documentation of *Rationale* for their Step 3 votes. In addition, 2 of the Step 3 panelists noted that the species "is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range" and 1 noted that the species "does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest". The species is not closely associated with late-successional or old growth forest, and thus does not meet one of the three Basic Criteria for placement on the Survey and Manage list.

AND

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding "little to no concern for persistence" (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* There are 1132 known sites, with 1120 likely still extant (from Step 2 notes). Also, "locally common in two localities (WA Olympics and Oregon Coast Range), but uncommon or rare

throughout the remainder of the range.” Six of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii). *Rationale:* From the Step 2 notes, 49% of the known sites are in reserves, “however, a greater proportion might be expected since a greater proportion of the pre-disturbance surveys were likely done in matrix lands, and there are a lot of reserve lands within the range of this species”. Step 2 specialists note “high” for the estimated proportion of potential habitat on Federal lands within protected land allocations. The notes suggest that this is rated high, “because much of Olympic NF is LSR.” Six Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 notes that the species is limited within the NWFP area, although locally common in two localities. From the Step 2 notes, “appear to be common in portions of two of these provinces, WA Olympics and Oregon Coast Range”. Six of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

SPECIES: *Hemphillia glandulosa*

ROD Category: C

ASR: 2001

RECOMMENDATION (WA Western Cascades Province): Change to Category E

JUSTIFICATION: Meets all of the criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species rarity in this part of the range changes to rare. Specific criteria for placement into Category E are (page 12 S&Gs):

Criterion 1: The likely number of extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: There are 49 known sites of this species in the WA Western cascades. The species is uncommon or rare throughout this part of the range and limited in distribution and is separated from the other parts of its range where it is abundant (Step 2 notes). Four of the Step 3 panelists who voted specifically on this part of the range noted that the species is rare in their documentation of *Rationale* for their Step 3 votes, and 3 noted agreement that there are a “low number of likely extant sites/records on federal lands.”

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: From the Step 2 notes, documented sites are from a wide range of seral stages of forests, from 11-15 year old Douglas-fir plantations, to early-to-mid-seral forests (40-80 yrs) and 10 late seral sites. Also, “It is closely associated with old-growth legacy...” The strength of the LSOG association cannot be determined from these areas due to lack of survey efforts (Step 2). Two Step 3 panelists who voted specifically on this part of the range noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

Six of the 8 Step 3 panelists voted to remove this species in the Olympic Peninsula and Oregon Coast Range. The Step 2 panel notes on page 12, “In the Olympic Mountains and northern Oregon Coast Range the species appears to be supported by NFP land allocations and other provisions”, and “There are concerns for persistence of *H. glandulosa* over about half of its range, but not on the Olympic Peninsula or in the northern Oregon Coast Range.” The IMG concurred with the recommendation to remove this species from S&M mitigation, noting that the species is “common” within these areas, and that a high proportion of the species’ habitat is within reserved land allocations. The Step 2 panel in their 30-day comments state, “If delisted because S&Gs and reserves are considered sufficient, management within reserves could prove

to be a concern.” This concern relates to the potential for thinning within these reserves. However, the IMG determined that should thinning in the reserves be proposed, the scale of the potential action would be such that it would not dramatically decrease available habitat for this species. Also, thinning in reserves is limited to stands less than 80 years of age, and thus is not applicable in late-successional old growth stands.

The Step 3 votes for the remainder of the range were scattered, with 3 to remove this species from S&M mitigation, 2 for a change to Category E, with 1 each for Categories A, C and F. Voting patterns indicate that Step 3 panelists were equally split; with 3 votes each, between removing the species and moving the species into a Category that indicates that information is insufficient to determine whether S&M Basic Criteria are met (Category E and F). The Step 3 panelists note in their *Rationale* for those Category E and F votes, questions about LSOG association.

For the WA Western Cascades portion of the species range, the IMG reviewed the Step 2 notes and Step 3 votes and recommended, “It is not clear whether this species is LSOG associated. If it is not, it should clearly be delisted. However if it is, because of its rarity, scattered distribution, and apparent lack of protection by reserves or matrix S&Gs, there is a risk to persistence. Therefore, moving to Category E has low risk.” Moving to Category E will provide protection for all known sites, and focus strategic surveys to help to determine LSOG association.

The 30-day review comments from the Step 2 panel regarding the recommendation to move the species to Category E in this part of the range state that “we are unsure what information was insufficient (species rare, LSOG assoc. and within NWFP range, or surveyable, etc.)” Overall, the Step 2 panel, in their 30-day comments, suggests that the Step 3 determination that there is a question regarding LSOG association did not consider all aspects of the habitat situation: “The Step 3 panel seems to have concluded that this species is not LSOG associated based on the following comments. The response following each quote shows that not all aspects of the habitat situation are being considered:

Step 3 panel Comments:

“Shade and moisture seem to be more prominent in its habitat needs” -- Logs and other woody debris are also important (Step 2 answer 3F).

“...found in very young stands, leaf litter, a garbage dump, red alder... Not a clear LSOG associate....” – Occasional or incidental occurrences are not indicative of overall habitat (Step 2 answer 2C).”

However, the IMG, after reviewing the Step 2 documentation could find no clear evidence that the species is LSOG associated. In this part of the range there are only 10 sites out of 49 that are located within late-seral habitat. The species has been located in a variety of other habitats, including very young forests.

SPECIES: *Hemphillia malonei*

ROD Category: C

ASR: 2001

RECOMMENDATION (OR): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1. Moderate-to-high number of likely extant sites/records known (2ci).

Rationale: From page 7 Step 2 notes, there are 619 sites, 585 of which occur on federal lands. Step 2 notes (page 4) state, “species is more common than previously thought”, and on page 11 “The species is fairly common within a limited area through western Cascades of the Mt. Hood NF and Cascades Resource Area of the Salem BLM District.” On page 13, Step 2 notes state, “a moderate number in the southern part of the range (OR)”, and on page 14 “in Oregon, it is more common and well-distributed”. In addition, 5 Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 2. High proportion of sites and habitats in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii).

Rationale: Step 2 notes that potential habitat in reserves is considered “moderate”, and there are a “low” number of known sites in protected land allocations. The IMG reviewed the Step 2 information and concluded that there is a moderate to high proportion of the potential habitat available in reserves, because there is an apparent wide ecologic amplitude of the species (300-4000’ elevation range and several vegetation zones), and a variety of seral stages the species is found within. Within the range in OR, there are large blocks of reserved land that have not been surveyed, but based on the information above, likely contain high numbers of sites. Two of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 3. Sites are relatively well distributed within the species range (2ciii).

Rationale: Step 2 notes, page 2, state that “Within the OR Cascades area, the distribution seems uniform within the surveyed areas”, and on page 13 “fairly well distributed in Oregon”. Five Step 3 panelists noted this criterion for OR in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

The Step 3 votes did not provide a clear recommendation. Three of the panelists voted to remove the species in OR, four voted to move the species to D, and one voted to move the species to Category F. The IMG reviewed the Step 2 and 3 information and recommended the species be removed from S&M mitigation in OR. The IMG recommended removing based on a high number of sites within OR, their determination that the reserve network likely provides for a high number of sites and/or high amount of potential habitat, and that within the OR portion of the range, the species is well distributed.

The Step 2 panel in their 30-day review comments noted “The total number of sites for this species (671) is still in the moderate range, so delisting in any portion of the range is not supported based on historical use of numbers.” The mollusk panel had previously established a ranking system to define the use of the terms low, moderate, and high (<100 sites is low, from 100-1000 sites is moderate to moderate/high, and greater than 1000 sites is high). However, to meet the first criterion listed above, a moderate-to-high number of sites is required, which appears appropriately documented (as moderate) in Criterion 1 above. In addition, the Step 2 panel often refers to this species as “common” within OR.

Remainder of species’ range

In the remaining part of the species range, no change in species category was noted. The species continues to be in Category C in WA.

SPECIES: *Megomphix hemphilli*

ROD Category A & F5

ASR: 2003

RECOMMENDATION (ENTIRE RANGE): Remove from S&M Mitigation.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Two of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: Step 2 analyzed the two segments of the species range separately (the Category A portion, north of the south boundary of Lincoln, Benton and Linn Counties and the Category F portion, south of the south boundary of Lincoln, Benton and Linn Counties). Step 2 worksheets documented a total of 1944 sites in the NWFP area, 4 of these were detected in random grid strategic surveys. The Step 2 panel concluded that both portions of the species range had a moderate-to-high number of likely extant sites (825 sites in north portion and 1119 in south portion). Analysis and interpretation of the random grid strategic survey results had not been completed in time for Step 2. IMG concurred with the Step 2 panel that there were a moderate-to-high number of estimated sites based on the fact that there are 1944 sites documented currently for the species in the NWFP area and noted that this conclusion was consistent with the determination for other species.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented that 7.4% of all known sites (143 sites) occur in reserve land allocations. The taxa lead and taxa expert reported 55% of potential habitat in reserve land allocations throughout the species range. IMG felt there was acceptable risk in concluding that the number of sites within reserves is low but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied based on the number of known sites documented for the species. The number of known sites for this species is among the highest of all species ever included in Survey and Manage.

Additional documentation

In response to questions during Step 3 regarding the amount of habitat in reserves, the taxa lead and taxa expert noted that the species is not only associated with late-successional and old-growth habitat. More acreage could be added to maps (showing habitat in reserves) if all age classes were considered.

SPECIES: *Monadenia churchi*

ROD Category: F

ASR: 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding "little to no concern for persistence" (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci). *Rationale:* There are 2372 known sites, 2213 on federal land. Most of these sites are likely still extant (from

Step 2 notes). All locations are from 2 provinces in CA. All 8 of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 2: High proportion of sites and “habitats” are in reserve land allocations; or limited number of sites within reserves, but proportional or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii).

Rationale: From the Step 2 notes, 49% of the known sites are in reserves. Step 2 specialists note “medium” for the estimated proportion of potential habitat on Federal lands within protected land allocations, as “about half of the federal land within...the range of the species is matrix”. Step 2 panel notes that “Habitat somewhat common”, and that “Habitat may grow back much faster than recolonization by this species can occur.” Seven Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Criterion 3: Sites are relatively well distributed within the species range (2ciii). *Rationale:* Step 2 notes that the species is “found in large patches throughout the range. Within these patches, the species is well distributed, but large gaps occur between populations.” All 8 of the Step 3 panelists noted this criterion in their documentation of *Rationale* for their Step 3 votes.

Additional documentation

Seven of the 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panelists’ recommendation and their *Rationale*. The IMG noted that the species does not meet 1 of the 3 Basic Criteria for inclusion in the S&M mitigation. There is not a persistence concern, as there are a high number of extant sites, a high proportion of habitat within reserves, and the species is well distributed.

The 2001 ASR IMG summary notes that the Step 2 panel believes that the distribution of this species has gaps potentially related to past fire events. The potential gaps and concern about slow recolonization capability led Step 2 to believe that persistence is threatened by potential prescribed fire in reserve land allocations. The Step 2 panel in their 30-day comments reiterated this by stating, “...widespread prescribed fire in occupied habitat may effectively remove the protection offered by these lands. Fuels management activities need to be done but should also take the species into account.” Another Step 2 panelist, however, felt that the information presented by the Step 2 panel regarding the potential threat of fire was made without conclusive researched evidence and should not be used. Another 30-day comment from another reviewer underscores the above comment, indicating that there appears to be no factual evidence/citations about the threat of fire to this species, and that the Step 2 team misinterpreted information presented to them. This reviewer also stated that the “map of sites does not indicate any gaps within appropriate forested habitat.”

Additional information: Statistical surveys

A draft report by McKenzie (FIA data) based on Utah State University analysis, projects 465,000 potential 1 ha sites +/- 99,000 sites. This information comes from strategic surveys conducted on random grids in CA. The design of the project was intended to determine relative species abundance based on the number of finds across this random grid. Such high numbers of potential occupancy by this species indicates little-to-no concern for persistence.

SPECIES: *Monadenia fidelis minor* **ROD Category:** A **ASR:** 2001

RECOMMENDATION (ENTIRE RANGE): Change to Category E

JUSTIFICATION: Meets all criteria for Category E. Change in Category is based on lack of knowledge of association with LSOG. Species rarity remains unchanged. Specific criteria for placement into Category E are (page 12 S&Gs):

Criterion 1: The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species (4ai).

Rationale: There are 63 known sites on federal lands within the NFP area, with all likely still extant. Since last ASR, 43 sites have been found. Seven of the Step 3 panelists noted this species as rare in their documentation of rationale for their Step 3 votes, with 4 noting that there are a “low number of likely extant sites/records on federal lands”.

Criterion 2: Information is insufficient to determine whether Survey and Manage basic criteria are met or to determine what management is needed for a reasonable assurance of species persistence (3ai, 3aii).

Rationale: Knowledge of the species is very limited, but it has been found in a variety of forest-related and arid habitats (Step 2 notes). Also from Step 2 notes, “Overlay of FEMAT LSOG layer with known sites in Mt. Hood shows about half of the sites located in late seral old growth stands”. In addition, the range “extends outside of the NFP area in eastern Columbia River Gorge to the Deschutes River”. On page 13, the Step 2 panel states “How strongly the species is associated with LSOG or old growth legacy is uncertain”. Six of the Step 3 panelists noted agreement with this criterion in their documentation of rationale for their Step 3 votes.

Additional documentation

Six of the 8 Step 3 panelists voted to move this species to Category E. The Step 2 panel in their 30-day review comments state “Insufficient information is a result of confusion about different habitat use by separate populations (i.e. Dry eastern sites vs. Mt. Hood forest sites). Until genetic and detailed morphological studies provide evidence that these are actually not the same subspecies, we must treat all specimens that meet the physical characteristics described for this subspecies as this subspecies. Therefore the forest LSOG association of Mt. Hood sites (most recorded sites) must be given proportional weight when deciding LSOG association.” The IMG however, reviewed the Step 2 information and concurred with the Step 3 panel recommendation that LSOG association was uncertain, based on the various habitats this species is found: from older forests to arid, non-forested lands.

SPECIES: *Monadenia fidelis minor*

ROD Category: E

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Change to Category A and extend known range of species.

JUSTIFICATION: Meets all criteria for Category A. Previous placement in Category E was due to uncertainty of LSOG association (Basic Criterion 2). New information has documented that the species is now considered closely associated with LSOG forests. All other factors remain the same (Species meets other Basic Criteria, is considered rare and pre-disturbance surveys are practical according to Step 2 analysis conducted in 2001). Biological range extension including the Hood River RD and Barlow RD in the Mt. Hood NF and the Mt Adams RD in the Gifford Pinchot NF has been documented.

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest.

Rationale: A species is considered closely associated with LSOG if it meets at least one of four criteria (S&G, pg. 55). New information determined that one of these four criteria was met. This criterion was:

Criterion 2. The species shows association with late-successional and old-growth forest (may reach highest abundance there) and species requires habitat components that are contributed by late-successional and old-growth forest.

Association with LSOG forest was documented after data analysis (intersection of known sites with forest inventory GIS coverage’s using size class attributes) showed 81% of known sites in LSOG. Association with LSOG components was documented after data analysis determined that 63 out of 83 feature types entered into ISMS (76%) were logs or woody debris.

Additional documentation

Eight of the eight Step 3 panelists voted to move this species to Category A. 30-day review comments contained no conflict with Step 3 panel recommendations. The IMG reviewed the Step 2&3 information and agreed with the unanimous vote of the Step 3 panel.

Range change noted

Step 2 panelists have documented that new records extended the range of this species to Hood River RD and Barlow RD on the Mt. Hood National Forest and Mt Adams RD on the Gifford Pinchot NF (Step 2, Condition Category 1, question 1). Step 3 panelists noted this range extension and the range extension was recommended by IMG.

SPECIES: *Monadenia infumata ochromphalus*

ROD Category B

ASR: 2003

RECOMMENDATION (ENTIRE RANGE): Remove from S&M Mitigation and document range contraction.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Two of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: The Step 2 worksheets documented a total of 223 sites in the NWFP area (138 since the last review), 16 of these were detected in random grid strategic surveys. Step 2 documented that 223 known sites were low-to-moderate (page 6) based on a low rate of detection and because 154 of the sites had no voucher specimens. Step 2 noted that the number of known sites was “not low” on page 17 thus indicating that they considered the number of known sites to be moderate. The Step 2 panel also concluded that the estimated number of sites from that random grid data (108,413 ±26,050 hectares of occupied habitat) was also low-to-moderate and noted that this is approximately 60% of the estimate for *Ancotrema voyanum* and much less than the estimates for two species already dropped from Survey and Manage. IMG concluded that there were a moderate-to-high number of estimated sites based on the fact that the species is limited to the California portion of the NWFP and was detected on 4.65% of all strategic survey plots in California representing 82,363 to 134,463 sites.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented that 22% of all known sites (49 sites) and 5 of 16 random grid sites (31%) occur in reserve land allocations. Step 2 concluded that the amount of potential habitat in reserve land allocations (54%) was moderate. IMG felt there was acceptable risk in concluding that the proportion of sites and habitat was high when the proportion of sites estimated to be in reserves (31%) and the amount of potential habitat (54%) was considered along with the rate of detection on the random grid.

Additional documentation

Step 2 documented that the species requires refugia sites such as large wood or rock talus but appears to be associated with several common plant communities. The Step 2 panel also noted that even though habitat patches are isolated from each other, suitable habitat is moderately

common and intermediate age classes may provide dispersal habitat and may help to reduce concerns about genetic isolation. The taxa lead and taxa expert noted in Step 3 that the species was not difficult to identify. They acknowledged that wildfire and broad application fuels treatments may result in a decline in habitat conditions in the short term but potential habitat types are expected to develop over time as younger stands mature.

Range change noted

Step 2 panelists documented that the range of the species should exclude the Mad River Ranger District (Six Rivers National Forest) because of a misidentified voucher. Seven of 7 Step 3 panelists voted to the Mad River Ranger District from the species range and IMG recommended recognizing the range change even though they recommended removing the species from S&M.

SPECIES: *Pristiloma arcticum crateris*

ROD Category: B

ASR: 2002

RECOMMENDATION (ENTIRE RANGE): Change to Category A and extend known range of species.

JUSTIFICATION: All criteria for Category A are met. New information has documented that pre-disturbance surveys are now considered practical. Other factors remain the same (still meets S&M Basic Criteria and is rare). Biological range extension south to Ashland Field Office of Medford BLM has been documented.

The specific criterion for assigning this species to Category A is (S&Gs page 7):

Criterion 1: Pre-disturbance surveys are practical. Surveys prior to the initiation of habitat disturbance are considered “practical” if all of the following criteria apply (S&Gs page 25):

1. The taxon appears annually or predictably, producing identifying structures that are visible for a predictable and reasonably long time.
2. The taxon is not so minuscule or cryptic as to be barely visible.
3. The taxon can authoritatively be identified by more than a few experts, or the number of available experts is not so limited that it would be impossible to accomplish all surveys or identifications for all proposed habitat-disturbing activities in the Northwest Forest Plan area needing identification within the normal planning period for the activity.
4. The taxon can be readily distinguished in the field and needs no more than simple laboratory or office examination to confirm its identification.
5. Surveys do not require unacceptable safety or species risks.
6. Surveys can be accomplished in two field seasons (approximately 7-18 months).
7. Credible survey methods for the taxon are known or can be developed within a reasonable time period (approximately 1 year).

Rationale: Step 2 documents that all seven criteria above are met. New survey requirements have been developed specifically for this species to ensure survey adequacy. Field personnel with adequate training can identify the species. Examination of shell characteristics under a microscope is sufficient for positive identification. Voucher requirement provides quality control. Survey protocol identifies procedures to predictably locate species.

Additional documentation

Eight of the eight Step 3 panelists voted to move this species to Category A. The IMG reviewed the Step 2&3 information and agreed with the majority vote of the Step 3 panel. 30-day review comments contained no conflict with Step 3 panel recommendations.

Range change noted

Step 2 panelists have documented that new records have extended the range of this species to the Ashland Field Office, Medford BLM (Step 2, Executive Summary, question 1). Step 3 panelists noted the range change and the range extension was recommended by IMG.

SPECIES: *Vorticifex klamathensis sinitsini***ROD Category:** E**ASR:** 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation; however, species to be reviewed for inclusion in BLM/FS special status/sensitive species program. Protect all sites known to date until review is completed.

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (page 3, S&Gs) for an S&M species is not met. Basic Criterion 2 specifically not met:

Basic Criterion 2: The species must be closely associated with late-successional or old growth forest (2b).

Rationale: The Step 2 notes state “Using aerial photographs, it appears that both known sites are not near late seral forests. The importance of upland watershed condition to the quality of the sites is very obscure and thus late seral association is not clear”. All 8 of the Step 3 panelists noted that this criterion was not met in their documentation of *Rationale* for their Step 3 votes. In addition, 7 of the Step 3 panelists noted that the species “is not significantly more abundant in late successional or old growth forest than in young forest, in any part of its range” and 6 noted that the species “does not reach highest abundance in late successional or old growth forest and does not require habitat components that are contributed by late-successional or old growth forest”.

Additional documentation

All 8 Step 3 panelists voted to remove this species from S&M mitigation. The IMG reviewed the Step 2 and 3 information and concurred with the Step 3 panel recommendation to remove the species from S&M. The IMG noted that 1 of the 3 Basic Criteria for inclusion as a S&M species is not met: The species is not closely associated with LSOG.

There were no conflicts noted by the Step 2 panel during the 30-day review of the Step 3 panel results.

AMPHIBIANS

SPECIES: *Plethodon elongatus***ROD Category:** D**ASR:** 2001

RECOMMENDATION (ENTIRE RANGE): Remove from S&M mitigation

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria (Basic Criterion 3) for S&M is not met (page 3, S&Gs).

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

The species is recommended for removal from S&M as the reserve system and other Standards and Guidelines of the Northwest Forest Plan appear to provide for a reasonable assurance of species persistence. Three of the four criteria regarding “little to no concern for persistence” (page 5, S&G/ROD) are met. The three specific criteria met are:

Criterion 1: Moderate-to-high number of likely extant sites/records known (2ci).

Rationale: Step 2 documents that the exact number of sites were unknown at the time but noted that there were between 700 and 1000 sites known at the time of the previous Step 2 analysis (March 2000). More precise numbers were available for IMG review for 2001. At that time there were 1838 sites documented on Federal land. Region 5 of the U.S. Forest Service conducted surveys in 2001 using a statistical valid method to estimate the species distribution on a multi-forest landscape scale (Step 2 notes, page 5). The detection rate of 11.4% ($\pm 0.8\%$) found in this statistically valid study yielded an estimated total of 230,000 ($\pm 67,000$) sites throughout the range of the species (based on the Draft McKenzie Report and

the Utah State analysis). These documents established theoretical standards of rare/uncommon and common based on current literature. According to these standards, the species is “well above the 5% level” used to distinguish between rare\uncommon and common. Five of the Step 3 panelists noted this criterion as supporting *Rationale* in casting their votes for removing or category placement. Though taxa specialists in the Step 2 notes expressed concern over the status of known sites and the genetic variability of the species throughout its range, the IMG concluded that there are a high number of likely extant sites based on the site data documented since Step 2 and the statistical sampling effort and subsequent analysis.

Criterion 2: High proportion of sites and habitats in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high, and there is a high probability that the habitat is occupied (2cii).

Rationale: Step 2 noted that the number of sites in protected land allocations could not be estimated since the total number of sites was uncertain at the time of the analysis. More precise numbers were available for IMG. Documentation used for IMG estimated that 569 of the federal sites were in reserves. In regard to habitat, Step 2 documented that 52% of the species’ range is in reserved or LSR allocations. Four of the Step 3 panelists noted this criterion as part of the *Rationale* in casting their votes for removing or category placement. The IMG used ISMS and GIS layers to document that 23% of the known sites occurred in protected land allocations. Based on the habitat and known site data, the IMG determined that there were a limited number of known sites in reserves but that the amount of potential habitat within reserves is high and that there is a high probability that the habitat is occupied.

Criterion 3: Sites are relatively well distributed within the species range (2ciii).

Rationale: Step 2 states, “The species appears to be widespread within its range however, there are large areas without records of localities, primarily in protected federal land allocations where surveys for the species have not occurred. Strategic surveys show that this species was detected on 63 of 197 (32%) CVS/FIA plots examined in federal reserved land allocations (all efforts combined).” In addition, 5 of the Step 3 panelists noted this criterion as *Rationale* in casting their votes for removing or category placement.

Additional documentation

Four of the 8 Step 3 panelists voted to remove the species over the entire range. The other four Step 3 panelists voted to retain the species in Category D. The IMG reviewed the Step 2 and 3 information and concluded that the species should be removed from S&M mitigation. The IMG recommended removal based on a high number of likely extant sites, their determination that the reserve network likely provides for a high number of sites and/or high amount of potential habitat, and that the species is well distributed. Specifically, they noted the high number of sites found within reserved land allocations during the statistical sampling effort, and the high detection rate of the species on all land allocation also noted during that effort.

The Step 2 taxa team recorded the observation during the 30 day comment period that, “Appears that panel [Step 3] was not in agreement in applying criteria in 2001 S&Gs, given the Step 3 split between Remove and Category D” but the Step 2 panel does not record any disagreement with the recommendation by four of the Step 3 panelists to remove this species from S&M mitigation. The IMG considered the fact that no disagreement by the Step 2 panel was noted during the 30-day comment period when they made their recommendation to remove this species from S&M.

SPECIES: *Plethodon stormi*

ROD Category: C

ASR: 2001

RECOMMENDATION (NORTH RANGE): Change to Category D

JUSTIFICATION: All criteria for Category D are met. Change in Category is due to a high amount of habitat in protected land allocations in this part of the species range, resulting in

no longer needing pre-disturbance surveys to help maintain persistence. Other factors (still meets the S&M criteria and is uncommon and is considered practical to survey for) remain unchanged. Specific criterion met for assigning this species to Category D (page 11, S&Gs) is:

Criterion 1: Meets the same criteria as Category C, except that pre-disturbance surveys are not practical or are not necessary to meet objectives for species persistence because inadvertent loss of some undiscovered sites would not change level of rarity (7b).

Rationale: Step 2 notes state that there was no significant change in the number or distribution of known sites but that due to the large number of known sites and habitat already protected in the northern range, pre-disturbance surveys may not be necessary in this area (page 12, 5C). Three of the 8 Step 3 panelists concluded that pre-disturbance surveys were not practical or not necessary in the northern range though the *Rationales* of the panelists were not recorded. Step 3 notes document that strategic surveys have already been completed in all the LSRs within the species range and that there are 161 known sites representing 8-10 major populations.

Based on the Step 2 documentation that pre-disturbance surveys may not be necessary in the northern range due to a large number of known sites, and that strategic surveys had been completed in all the LSRs within the species range, the IMG concluded that a reasonable level of protection is still provided for this species to maintain persistence with the recommended category change for this species from C to D. They also determined that the level of rarity would not be affected by the lack of pre-disturbance surveys and the inadvertent loss of some undiscovered sites. High-priority sites for this species would continue to be managed, and strategic surveys would still be required.

Additional documentation

There was no conflict from taxa specialists during the 30-day review on the change from Category C to Category D in the north range. The only comment received during the 30-day review was, “Ample information was provided in Step 2 to delineate partial range considerations, yet largely not addressed by Step 3.” The specific information that the Step 2 panel claimed was not considered by Step 3 was not identified, nor were the suggested partial range delineations. Based on the generality of this comment, the IMG was unable to consider this comment in developing their recommendation recorded above.

Remainder of species’ range

In the remaining part of the species range, no change in species category was noted. The species continues to be in Category C outside of the north range.

SPECIES: *Plethodon stormi*

ROD Category: C

ASR: 2002

RECOMMENDATION (SOUTH RANGE): Change to Category A and extend known range of species.

JUSTIFICATION: All criteria for Category A are met. Species is now considered rare. Other factors remain the same (still meets the S&M Basic Criteria and pre-disturbance surveys are practical). Biological range extension westward to East Fork of Indian Creek has been documented. The specific criteria for assigning a species to Category A is (S&Gs, pg. 7):

Criterion 1: The species is rare and all known sites or populations areas are likely to be necessary to provide reasonable assurance of species persistence, as indicated by:

1) Limited distribution.

Rationale: The distribution of PLST is limited. It has the smallest known range of any western *Plethodon* salamander. The range of the southern group is about the same as the northern group, which is limited to a portion of a single 4th field watershed, but the species is not found as frequently in the south (Step 2, Condition Category 6, #1, Step 3

Introduction). The decrease in occurrence in the south appears to be related to habitat. Habitat appears to be more limited in the southern portion of the species' range. (Step 2, Condition Category 6, #1). The species prefers cool moist habitats, which do not occur as frequently in the south as compared to the northern portion of the species range (Step 3 Discussion Notes).

2) Low numbers of sites or individuals per site.

Rationale: There is a low number of likely extant sites on federal land in the southern group. There are only 30 sites recorded in the ISMS database. These sites comprise 2-3 distinct lineages (Step 2, Condition Category 6, #6) and there is a small number (e.g. 3) of known sites per genetic subgroup. Loss of one or more sites in the southern group could decrease the likelihood of persistence in this part of the species range and could potentially eliminate an entire lineage (Step 2, Condition Category 3, #1b). There were 10 new sites overall in the southern range and no detections for PLST in 18 FIA plot surveys (GOBIG), supporting rarity in this area (Step 3 Discussion Notes). The numbers of individuals per site is uncertain in the southern range. (Step 2, Condition Category 6, #7). Ollivier et al. 2001 found a reduced occupancy rate in southern sites. There was a lower capture rate/hr by PSW survey crews in California, compared to PNW survey crew in Oregon, as noted in the Strategic Survey report. The PSW and PNW Strategic survey crews found a lower percent of plots with detections in the South. (Step 2, Condition Category 3, question 1 and A.5).

3) Highly specialized habitat requirements.

Rationale: PLST requires large conifers, closed canopy and coarse substrates (rocky substrates dominated by cobble size pieces) where precipitation patterns appear to be stronger drivers of distribution. (Step 2, Executive Summary and Condition Category 6, question 11) The new study on habitat indicates highly specialized habitat requirements, in particular the moist microclimate. (IMG Review Notes).

4) Narrow ecological amplitude.

Rationale: The species has narrow ecological amplitude. There appears to be less than 30% of the landscape that provides high quality habitat (closed canopy, large conifers, and coarse substrates) in the south, where precipitation patterns appear to be stronger drivers of distribution. (Step 2, Condition Category 6, question 11).

Additional documentation

Since last years ASR, Step 2 panelists have documented that the range of this species has been extended westward to the East Fork of Indian Creek. In addition, Step 3 panelists and the IMG noted range change.

Eight of the eight Step 3 panelists voted to move this species to Category A. The IMG reviewed the Step 2&3 information and agreed with the majority vote of the Step 3 panel. 30-day review comments agreed with the category change from C to A.

Range change noted

An extension of the species range was noted, due to new information. The range of this species now includes the western portion of the East Fork of Indian Creek, Happy Camp Ranger District, Klamath National Forest. The south range of *P. stormi* is now described as follows: The eastern boundary line of the south range follows interstate highway 5 (I-5) south from the Siskiyou Crest to the northernmost crossing of I-5 and the R7W/R6W boundary line. It continues south along this line to the Klamath/Trinity National Forest boundary. The southern boundary line of the southern range continues southwest along the forest boundary to the Scott River/Salmon River District boundary. The western boundary line of the southern range continues northwest along the Scott River/Salmon River District boundary to the Humboldt/Mt. Diablo Meridian. The western boundary of the southern range continues north along the Humboldt/Mt. Diablo Meridian line to the south watershed boundary of the China Creek watershed. The western boundary line then continues west to California Highway 96

and follows the highway to the confluence of Indian Creek, and the Klamath River. The western boundary line of the southern range then continues north along Indian Creek to the confluence of Indian Creek and the east fork of Indian Creek. The western boundary line then continues up the western watershed boundary of the East Fork of Indian Creek to the California state line. The northern boundary of the southern range then follows the California state line to the Siskiyou Crest. The northern boundary of the south range then continues along the Siskiyou Crest east to I-5.

Remainder of the species' range

There was no change in the species management status in the remaining part of the species range (North Range). The species remains in Category D in the North Range.

GREAT GRAY OWL

SPECIES: *Strix nebulosa*

ROD Category: C

ASR:2002

RECOMMENDATION (ENTIRE RANGE): Change to Category A

JUSTIFICATION: All criteria for Category A are met. Species is now considered rare. Other factors (still meets the S&M Basic Criteria and pre-disturbance surveys are practical) remain the same. The specific criteria for assigning a species to Category A is (S&Gs, pg. 7):

Criterion 1: The species is rare and all known sites or population areas are likely to be necessary to provide reasonable assurance of species persistence, as indicated by:

1) Limited to somewhat limited distribution.

Rationale: Species current range in the Northwest Forest Plan area includes Oregon Eastern Cascades, Oregon Western Cascades, Washington Eastern Cascades, Washington Western Cascades, Western Washington Lowlands, and Oregon Klamath Provinces. Species is considered somewhat limited because the species is not documented from the entire Coast Range, Willamette Valley, Olympic Peninsula, California Cascades, and Klamath Provinces. (Step 2 Condition Category 3, question 5).

2) Low numbers of sites or individuals per site.

Rationale: New information indicates that there are a low number of known sites for this species. Numbers went down from 508 to 114 sites due to the taxa team redefining a known site as a reproductive pair (Step 2 Condition Category 3, question 1 and Introduction to Executive Summary). Known sites previously included all Great Gray Owl observations. To more accurately identify the habitat that needs to be managed for persistence of the species, known sites were limited to locations that have supported reproductive pairs of owls.

3) Highly specialized habitat requirements.

Rationale: This species requires juxtaposition of LSOG and early seral forest/meadows. This habitat is limited within the range of the species within the NWFP. The ephemeral nature of early seral forests and the encroachment of brush and conifer into natural meadow habitats further limit the amount of available suitable habitat (Step 2 Condition Category 6, question 11). The species is also limited to LSOG with appropriate nesting structures. The species requires large trees (42 inch average diameter in one study within the Northwest Forest Plan) with nests built by other raptors or common ravens or large broken top trees or snags.

4) Declining habitat or population trends.

Rationale: Foraging and nesting habitats have declining trends. This was deduced from GGO Team Professional Opinion and the SAT report Appendix 5-D, pp 362, where Ward, et al. found that Great Gray Owls were broad in endemism, were scarce in general abundance in NSO range and their population trend within NSO range was decreasing.

Foraging: Natural meadows are in decline due to encroachment of conifers and brush. The amounts of man-made openings are in decline due to reductions in the amount of regeneration timber harvests on federal lands. The quality of existing man-made openings is also in decline due to in-growth. This limits the ability of GGOs to forage effectively. Nesting: LSOG continues to be harvested within the species' range. (Step 2 Condition Category 6, question 12).

5) Reproductive characteristics that limit population growth rates.

Rationale: Clutch size of 1-3 is common in the NWFP area, as compared to larger (up to 9) documented elsewhere in the world. Survival of fledglings to dispersal age seems to be limited by predation within the NWFP area. Dispersing young are vulnerable to predation, and it is uncertain whether existing landscape patterns are conducive to successful dispersal. (Step 2 Condition Category 6, question 5).

6) Restricted distribution pattern relative to range or potential habitat.

Rationale: Species is considered to have a restricted distribution pattern relative to range or potential habitat because the species is not documented from the entire Coast Range, Willamette Valley, Olympic Peninsula, California Cascades, and Klamath Provinces. (Step 2 Condition Category 3, question 5) The documented distribution of known sites is concentrated in two general areas within Oregon (Medford and Willamette). There are also numerous observations of GGOs scattered irregularly throughout the documented range. (Step 2 Condition Category 6, question 2) This species is poorly distributed within its habitat due to a large proportion of surveyed, suspected, suitable habitat that appears to be unoccupied. (Step 2 Condition Category 6, question 3).

7) Narrow ecological amplitude.

Rationale: The species has narrow ecological amplitude because areas with the necessary juxtaposition of LSOG and early seral forest/meadows are limited within the range of the species within the NWFP. The ephemeral nature of early seral forests and the encroachment of brush and conifer into natural meadow habitats further limit the amount of available suitable habitat. The species is also limited to LSOG with appropriate nesting structures. (Step 2 Condition Category 6, question 11).

Additional documentation

Six of the eight Step 3 panelists voted to move this species to Category A. Reviewers contributing to the 30 day review process recorded no conflicts between Step 2 analysis and the Step 3 majority vote. IMG agreed with the majority vote and recommended Category A for this species. No range change was noted.

RED TREE VOLE

Species: *Arborimus longicaudus* **Red Tree Vole** **ROD Category C** **ASR: 2001**

RECOMMENDATION (CENTRAL RANGE): Change to Category D

JUSTIFICATION: All criteria for Category D are met. Change in Category is due to an increased number of known sites found in this part of the species range, resulting in no longer needing pre-disturbance surveys to help maintain persistence. Other factors (still meets the S&M criteria and is uncommon and is considered practical to survey for) remain unchanged. Specific criterion met for assigning the species to Category D (page 11, S&Gs) is:

Criterion 1: Meets the same criteria as Category C, except that pre-disturbance surveys are not practical or are not necessary to meet objectives for species persistence because inadvertent loss of some undiscovered sites would not change level of rarity (7b).

Rationale: Although a large number of new sites were documented since the last ASR, the Step 2 panel did not include numbers of new sites in the Step 2 notes because the data were inaccurate. Some field units had not entered data yet and others made numerous mistakes.

These data inaccuracies indicate a database error of up to 40%. Most of the errors are errors of omission (sites not entered into the database, or insufficient site information entered), inaccurate site locations, or duplicate entries. Despite these errors, there does appear to be a large number of documented sites, with over 1000+ recorded sites (not all confirmed), with at least 582 with active nests (from Step 3 discussion). Approximately 80% of all records in the database are from pre-disturbance surveys from the last 2 years.

The RIEC (Regional Interagency Executive Committee) directed the IMG to have the taxa team re-run the data immediately, directing field units to get their data into the database and correct their errors. This re-run was completed in December with most of the errors corrected. This re-run confirmed and underscored the high number of sites located within the central part of the range, consistent with the information presented above.

The Step 3 panel was split in their recommendation for this species within the “central” portion of the range, with 4 votes to remove the species from S&M, 3 other panelists voting to move the species to Category D, and one panelist splitting their vote with 60% of their vote going to Category D and 40% to Category F. None of the panelists voted to retain this species as a Category C in the “central” part of the range.

After reviewing the information from the Step 2 and Step 3 process, the IMG concluded that although pre-disturbance surveys were still practical, they were not needed to meet management objectives for species persistence. They concluded that the inadvertent loss of some undiscovered sites would still mean the species is considered uncommon within the central portion of the range, as all known sites would still be managed for protection, and incidental finds of nests may be protected if needed.

Even though there was strong support from the Step 3 panel to remove the species from S&M mitigation within this area (the majority vote), the IMG recommended only for a change to Category D in the “central” part of the range, to await the results of the strategic survey. The strategic survey should address abundance and distribution issues in reserve land allocations, and may support removing the species from S&M or retaining as a Category D.

The Central part of the range is described as: Siuslaw NF (Mapleton RD); Roseburg District BLM; Umpqua NF (North Umpqua RD); Eugene BLM (Coast Range RA); Medford District BLM (Glendale RA) – within Douglas County; Coos Bay District – within Coos and Douglas County.

Additional documentation

In summary, the IMG concluded that changing management to a Category D will still provide for a reasonable assurance of species persistence, until strategic surveys and the development of a Management Recommendation for high-priority sites are completed. The IMG arrived at this conclusion because of the large number of sites in the central portion of the species range which will continue to be managed as protected sites, the availability of known and potentially occupied red tree vole habitat as part of the reserve system, and the lower number of acres of actual habitat that may potentially be disturbed within this general area. Pre-disturbance surveys were determined as not needed because a sufficient number of sites are known such that inadvertent loss will not affect persistence and the loss of additional but currently undiscovered sites are not needed to help maintain persistence.

Four comments were received from the Step 2 panel during the 30-day review on the change from Category C to Category D in the central portion of the species’ range. These were: “1) Step 2 panel did not present information that is consistent with the delineation of geographic areas voted on by Step 3, 2) numerous statements and use of terminology in the comments and discussion sections of Step 3 results are not supported by Step 2 panel worksheets, 3) rationale used in Step 3 voting not consistent with Step 2 worksheets, and 4) many comments and conclusions of Step 3 were made without regard to the initial issue: the ISMS data was inconsistent, inaccurate, and incomplete at the time of Step 3 panel.”

The IMG considered these 30-day comments in their recommendation to the RIEC. For 1) above, the IMG concurred with the 30-day comment. In their recommendation, the IMG requested that the Step 2 panel define the “central” or “core” portion of the range of the species, through mapping or a verbal presentation. The Step 2 panel has provided this, and this description of the range is noted above. For comment 2) above, the terminology and information used by the Step 3 panelists was their interpretation of not only the Step 2 notes, but also of the presentation made by the taxa lead and expert to the Step 3 panel prior to Step 3 voting on species category placement. The presentation, which included a question and answer portion, included new information or information that was not necessarily the same as the Step 2 notes. Therefore, some of the statements and terminology used by the Step 3 panelists may not have been consistent with the Step 2 notes. For 3) above, the Step 3 panel is not limited to just the information presented by the Step 2 panel or the Step 2 notes. Other considerations such as risk assessment are relevant to the Step 3 reviewers. Also, as stated above, the taxa lead and expert made new information and different interpretations of the Step 2 material when they presented their information and responded to the Step 3 panel prior to the Step 3 votes. That information and the Step 3 panel interpretation of it is reflected in the Step 3 rationale, and may not be consistent with the information listed in the Step 2 notes. For the fourth comment above, 4), the Step 3 panel did consider the inaccuracy of the ISMS database, with many of the panelists noting the inaccuracies and need for resolution. However, the Step 3 panel indicated that there was enough information to determine that pre-disturbance surveys were no longer needed in the core part of the range to provide for a reasonable assurance of persistence. This was based on the large number of sites in the core area. The IMG directed the taxa team and field units to re-run the data by December 2001. After this re-run, the IMG reviewed the corrected data and concluded that the new information was still supportive of the assumptions and conclusions made by the Step 3 panel.

Remainder of species’ range

In the remaining part of the species range, no change in species category was noted. Species continues to be in Category C outside the central portion of the range.

SPECIES: *Arborimus longicaudus*

ROD Category C & D

ASR: 2003

RECOMMENDATION (MESIC ZONE): Remove from S&M Mitigation.

Note: *Arborimus longicaudus* is currently listed as Category D in the Central part of its range and Category C throughout the rest of its range. The Step 2 and Step 3 panels analyzed the data for this species according to three different range delineations: the current range delineation (Central, Outside Central), habitat zones (North Mesic, Mesic, and Xeric) and entire range. The IMG recommended removal of *Arborimus longicaudus* in the Mesic part of the range (2003 ASR Step 2 map 1).

JUSTIFICATION: The species does not meet the Basic Criteria for inclusion as an S&M species. One of the 3 Basic Criteria for S&M are not met (page 3, S&Gs). The Basic Criterion not met is:

Basic Criterion 3: The reserve system and other Standards and Guidelines of the Northwest Forest Plan do not appear to provide for a reasonable assurance of species persistence.

Current information indicates that the reserve system and other Standards and Guidelines of the Northwest Forest Plan do appear to provide for a reasonable assurance of species persistence. Three of the four criteria indicating no concern for persistence are met. These criteria are:

Criterion 1: Moderate-to-high number of likely extant sites.

Rationale: The Step 2 worksheets documented that there were a moderate-to-high number of likely extant sites in the Mesic portion of the species range. This conclusion was based

on a total of 405 survey polygons with 1 or more active nests and a detection rate of 26%. IMG concurred with the Step 2 panel that there were a moderate-to-high number of sites based on the total number of survey polygons with active nests and the detection rate of 26%. Data from random grid strategic surveys were not analyzed in Step 2 since surveys had not been completed at that time but the detection rate for data completed through February 2003 indicated a detection rate in Oregon of 26.9% for active nests and 44.6% for active plus inactive nests. These are among the highest rates of detection for any species included in the random grid surveys and IMG felt these data supported the conclusion of a moderate-to-high number of likely extant sites in the mesic zone.

Criterion 2: High proportion of sites and habitat in reserve land allocations; or limited number of sites within reserves, but the proportion or amount of potential habitat within reserves is high and there is a high probability that the habitat is occupied.

Rationale: Step 2 panelists documented that 17% of all survey polygons with one or more active nests in reserve land allocations in the mesic zone (68 out of 404). Step 2 also documented that the proportion of potential habitat in reserves in the mesic zone was 35%. Based on these results, they concluded that the proportion of sites and habitat in reserves was not high but that there was a high probability that potential habitat in reserves would be occupied. Red tree vole random grid surveys are not yet complete and data are not stratified according to habitat zones but for the data that had been collected through February 2003, the detection rate of active nests in reserves in Oregon was 20% and the detection rate of active plus inactive nests in reserves was 35%. The detection rate of active plus inactive nests on the random grid across all land allocations in Oregon was 44.6%. These detection rates are among the highest of all survey and manage species. Research wildlife biologist Dr. Eric Forsman prepared responses to public comments to the draft SEIS. In those responses, he stated that “the FEMAT panel gave the red tree vole a 0 percent likelihood of extirpation under Option 9. The analysis shows that with the large amounts of federal lands in reserve land allocations and Matrix and Adaptive Management Area Standard and Guidelines, there would not be a high risk of extirpation in the Northwest Forest Plan.” Dr. Forsman acknowledges though that concerns for persistence are warranted in certain areas outside the mesic zone (north mesic where federal lands are sparse and highly fragmented and the xeric zone of interior southwest Oregon where tree voles appear to become increasingly uncommon near the eastern edge of their range). IMG agreed with this analysis and felt there was acceptable risk in concluding that the proportion of sites and habitat was sufficiently high in the mesic zone when the proportion of sites estimated to be in reserves and the amount of potential habitat in reserves was considered along with the rate of detection on the random grid.

Criterion 3: Sites are relatively well distributed within the species range

Rationale: Step 2 documents that *Arborimus longicaudus* is well distributed within the mesic portion of its range. Step 2 noted that the distribution of the known sites for this species varies substantially in different parts of the species range but near the center of the species range, in the area of the Umpqua Basin and southern Willamette Valley the species abundance is higher and its distribution is more well-distributed. Step 2 also states that the detection information and spatial display of ISMS data supports previous conclusions that red tree voles have populations that are more well-distributed in the mesic zone at lower elevations such as the central coast range and the lower elevation central cascades. The conclusion of Step 2 for the entire Mesic Zone was that the species was well distributed. IMG concurred, that overall, the species is considered well distributed in the mesic portion of its range.

Additional documentation

The Step 2 panel documented that, even though the matrix standards and guidelines and other elements of the Northwest Forest Plan did not provide for a reasonable assurance of persistence, riparian reserves and connectivity blocks did contribute to persistence. The specific contribution of riparian reserves, as documented in the Step 2 worksheets, is unknown. These conclusions (riparian reserves contribute to persistence but to an unknown extent) are in

harmony with the recent draft Supplemental Environmental Impact Statement to remove or modify the Survey and Manage mitigation measure standards and guidelines and responses to public comments to the draft SEIS prepared by research wildlife biologist Dr. Eric Forsman. The draft SEIS stated that riparian reserves improved the rating for red tree vole “by an undetermined amount above the 73% likelihood of sufficient habitat to provide for stable, well-distributed populations across federally managed lands and a 0 percent likelihood of extirpation in the Northwest Forest Plan.” Dr. Eric Forsman, in his response to a public comments to the draft SEIS regarding the contribution of riparian reserves to the likelihood of persistence of red tree voles stated the following,

“The [FEMAT] panel evaluation of tree voles was done before the agencies adopted the wider riparian buffers that eventually became part of the Northwest Forest Plan. So if anything, the panel would probably have given tree voles a higher score, as a result of the increased protections that were eventually adopted. It is not definitively known to what extent Riparian Reserves provide habitat or connectivity for tree voles, but the same can be said for old-growth uplands, young forests, and clear-cuts. Except for a handful of radio-collared voles, there is no actual data on dispersal of tree voles. So all comments about dispersal and connectivity relative to tree voles are based mostly on conjecture, and this includes all of the published and unpublished literature on the species. In the absence of real data on dispersal, it is most logical to assume that the addition of large areas of mature and old forest in riparian buffers will improve conditions for tree voles, regardless of composition, slope, or spatial arrangement.”

Riparian reserves comprise approximately 50% of every watershed according to the draft SEIS. IMG agreed that the addition of large areas of mature and old forest in riparian buffers improve conditions for the red tree vole.

In regard to Connectivity Blocks, Step 2 stated that the longer rotation ages may allow for re-colonization of habitat and retain reproducing population of red tree voles within the connectivity block sections as suitable habitat patterns change over time.