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January 2001

Record of Decision and Standards and Guidelines

**for
Amendments to the Survey and Manage,
Protection Buffer, and other Mitigation Measures
Standards and Guidelines**



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

Record of Decision
for Amendments to the Survey and Manage,
Protection Buffer, and other Mitigation Measures
Standards and Guidelines

RECORD OF DECISION

**for
Amendments to the Survey and Manage, Protection Buffer,
and other Mitigation Measures Standards and Guidelines**

**in
Forest Service and Bureau of Land Management Planning
Documents Within the Range of the Northern Spotted Owl**

January 2001

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

Cooperating Agency: Fish & Wildlife Service - U.S. Department of Interior

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Attachment 1: Standards and Guidelines

RECORD OF DECISION

for

Amendments to the Survey and Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines

1. Introduction

Summary

In this Record of Decision we are amending a portion of the Northwest Forest Plan by adopting new standards and guidelines for Survey and Manage, Protection Buffers, and other mitigating measures. Our Decision selects, with additional mitigation and minor modifications, Alternative 1 in the November 2000 Final Supplemental Environmental Impact Statement for Survey and Manage, Protection Buffers, and other Mitigation Measures in the Northwest Forest Plan (Final SEIS). This Decision makes it possible for the Agencies to more efficiently provide the level of species protection intended in the Northwest Forest Plan. Our Decision retains the major elements of Survey and Manage, restructuring them for clarity, describing criteria and processes for changing species assignments in the future, and removing 72 species in all or part of their range because new information indicates they are secure or otherwise do not meet the basic criteria for Survey and Manage. This Decision applies to administrative units of the USDA Forest Service and USDI Bureau of Land Management (BLM) (generally referred to as “the Agencies”) within the range of the northern spotted owl.

Background/Purpose and Need

In 1994, the Bureau of Land Management and Forest Service adopted standards and guidelines for the management of habitat for late-successional and old-growth forest related species within the range of the northern spotted owl, commonly known as the Northwest Forest Plan. The key elements of the Northwest Forest Plan are the system of reserves, the Aquatic Conservation Strategy, and various standards and guidelines affecting each of seven different land allocations. Also, mitigation measures were included for management of known sites, site-specific pre-habitat disturbing surveys, and/or landscape scale surveys for about 400 rare and/or isolated species. These are species that, either because of genuine rarity or because of a lack of information about them, the Agencies did not know whether they would adequately be protected by other elements of the Northwest Forest Plan. The standards and guidelines for these mitigation measures are known as Survey and Manage, Protection Buffers, and Protect Sites From Grazing. This decision

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also addresses standards and guidelines protecting certain bat roosts and calls special attention to recreation sites.

Considerable new information has been acquired about these species since they were included in Survey and Manage in 1994. More than 47,000 individual data records have been gathered from historical information as well as various agency surveys. The 1994 Northwest Forest Plan anticipated species would be moved to different categories or would be removed from Survey and Manage as new information indicated they were more secure than originally projected. This is appropriate; many species were included simply because information available at the time indicated they were very rare or endemics and other standards and guidelines from the Northwest Forest Plan might not adequately provide for them. In 1994, for example, the terrestrial mollusk papillose tail-dropper (*Prophysaon dubium*) was known only from two sites in the Northwest Forest Plan area. Since then, the Agencies have compiled nearly 1,000 records representing 300 to 500 individual sites.

It is appropriate and expected that species should be removed from Survey and Manage or that the level of management should increase or decrease for individual species based on new information. Implementation experience also shows some of the standards and guidelines overlap, are unclear, or are not the most practical way to meet species management objectives. The Final SEIS proposes to amend these standards and guidelines in a way that continues to provide for late-successional and old-growth associated species, while reducing implementation costs and reducing unnecessary impacts to other forest management activities, including the production of timber, and thus better meet the original balance in the Northwest Forest Plan.

It is important to take special note of this relatively specific Purpose and Need of the Proposed Action. The proposed action and resultant analysis was triggered by uncertainty and duplication in the language of the existing Survey and Manage direction and related standards and guidelines. Clarity was needed, duplication and unnecessary levels of protection needed to be removed, and an adaptive management process was needed to describe the process for future changes. The range of alternatives included in the Final SEIS is sufficient to deal with these identified needs. Alternatives that considered eliminating or greatly expanding Survey and Manage were not needed, nor would they have been appropriate, because the overall concept of Survey and Manage has not yet been implemented and monitored long enough to thoroughly evaluate its overall effectiveness in meeting species persistence objectives. It must also be remembered that Survey and Manage and related measures are mitigation measures applied to the ecosystem-focused strategy of the Northwest Forest Plan. As noted in the Final SEIS, "Although these mitigation measures reduced the impacts of management actions, they are only a part of the overall strategy of the Northwest Forest Plan to meet species stability and distribution

(persistence) objectives. Late-Successional, Riparian, and other reserves, as well as many standards and guidelines, work together to provide for habitat and species.”

Nature of this Action

This Decision amends the Survey and Manage and related standards and guidelines of the 1994 Northwest Forest Plan (See Final SEIS, Appendix B, for the specific standards and guidelines replaced). The amendment is designed to add clarity, remove duplication, increase or decrease levels of management for specific species based on new information affecting the level of concern for their persistence, and establish a process for making changes to management for individual species in the future originally intended in the Northwest Forest Plan.

Plans Amended

Although this Decision continues to use the popular and inclusive title of “Northwest Forest Plan” to denote what is being amended, readers need to recognize there is no one such “Plan.” The phrase denotes the April 13, 1994, amendments to all existing land and resource management plans for the U.S. Bureau of Land Management and U.S. Forest Service within the range of the northern spotted owl relating to management of habitat for late-successional and old-growth forest related species, as well as to the Regional Guides for Forest Service Regions 5 and 6, as listed below. Our Decision amends a portion of those previous amendments, the standards and guidelines relating to Survey and Manage, Protection Buffers, and three other mitigation measures. The administrative units whose Plans are amended by this Decision are generally located in western Oregon and Washington (including some areas east of the Cascades) and northwestern California (see Figure 1 in the attached Standards and Guidelines).

For the Bureau of Land Management, the alternative adopted by this Decision amends the Resource Management Plans for the Salem, Eugene, Roseburg, Medford, and Coos Bay Districts in Oregon; the Klamath Falls Resource Area of the Lakeview District, also in Oregon; and the Arcata, Redding, and Ukiah field offices in California. The King Range National Conservation Area Management Plan in the Arcata Resource Area in California is also amended. This Decision does not apply to the Headwaters area recently acquired by the BLM for which a separate management plan is being written.

For the Forest Service, the alternative adopted by this Decision amends the 1984 Regional Guide for Region 6, as amended in 1988 and 1994, the 1984 Regional Guide for Region 5, as amended in 1994, and the National Forest Land and Resource Management Plans for the Gifford Pinchot, Mt. Baker-Snoqualmie, Mt. Hood, Olympic, Rogue River, Siuslaw, Siskiyou, Six Rivers, Umpqua, and Willamette National Forests, as well as portions of the

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Deschutes, Okanogan, Wenatchee, Winema, Klamath, Lassen, Mendocino, Modoc, and Shasta-Trinity National Forests. Although the November 9, 2000, Forest Service planning regulations specify the Regional Guides will be withdrawn within a year, such withdrawal will have no effect on the application of these standards and guidelines because they are included in the existing land and resource management plans of the affected administrative units described above.

Supplemental Environmental Impact Statement

This Decision is based on information and analysis in the Final Supplemental Environmental Impact Statement for Amendment to the Survey & Manage, Protection Buffer, and other Mitigation Measures Standards and Guidelines (Final SEIS), the underlying Administrative Record for this Decision (including comments from other agencies, governments, and the public), and the NEPA documents to which the Final SEIS is a supplement. The Final SEIS has been available to us and to the public at least 30 days following the Notice of Availability published in the Federal Register on November 24, 2000.

The Final SEIS was prepared by the BLM and Forest Service in cooperation with the U.S. Fish and Wildlife Service. The Notice of Intent to prepare the Final SEIS was published in the Federal Register on November 25, 1998, and amended April 21, 2000. This Final SEIS is a supplement to the 1994 Final Supplemental Environmental Impact Statement on Management of Habitat for Late-Successional and Old-Growth Forest-Related Species Within the Range of the Northern Spotted Owl, referred to herein as the 1994 Northwest Forest Plan Final SEIS. The 1994 Northwest Forest Plan Final SEIS itself supplemented Forest Service Regional Guides for Regions 5 and 6, the 1992 Forest Service EIS for Management of the Northern Spotted Owl, and the EISs or Draft EISs for the land and resource management plans for each of the administrative units within the range of the northern spotted owl for both Agencies. Analysis in the Final SEIS, upon which this Record of Decision is based, built upon analysis in the 1994 Northwest Forest Plan Final SEIS, particularly Appendix J-2 and the report of the Forest Ecosystem Management Assessment Team (FEMAT). Other research literature, agency records and databases were searched, and other experts consulted, to provide the most updated and complete collection of information about these species as possible. These sources of information are referenced throughout the effects sections of the Final SEIS and are listed in the References.

2. The Decision

In this Record of Decision, we jointly adopt Alternative 1 of the Final SEIS, as modified by:

- The addition of equivalent-effort surveys for eight mollusk species and manage sites known as of 9/30/99 direction for two mollusk species projected to have unstable populations under Alternative 1.
- A requirement that monitoring results be included in the Survey and Manage Annual Status Report.
- A requirement that Species Review Panel recommendations be disseminated to lead and cooperating agency taxa experts for comment at least 30 days prior to being forwarded to the Regional Interagency Executive Committee (RIEC) for review.
- A rewritten monitoring section to better match monitoring described for other elements of the Northwest Forest Plan.
- Clarification that Protection Buffer direction continues to apply to six species for which Management Recommendations are not yet prepared (see attached standards and guidelines).
- References to a Strategic Survey Plan have been changed to a Strategic Survey Implementation Guide to avoid confusion over whether the guide was intended to conform to National Forest planning regulations.
- Other minor clarifying edits having no effect on Alternative 1 from the standpoint of the environmental consequences described in Chapter 3&4 of the Final SEIS.

The written directions which comprise the selected alternative in this Decision are set forth in concise form in Attachment 1 to this Record of Decision, entitled “Standards and Guidelines.” This Decision, as spelled out in Attachment 1 (sometimes referred to herein as “the attached standards and guidelines”), applies to lands administered by the Bureau of Land Management and the Forest Service within the Northwest Forest Plan area as previously described. In addition to including standards and guidelines and related tables from Chapter 2 of the Final SEIS, Attachment 1 includes, as standards and guidelines for the selected alternative, the criteria for identifying species closely associated with late-successional and old-growth forests from Appendix E of the Final SEIS, the description of the Species Review Process from Appendix F, and relevant portions of the Final SEIS Glossary.

The attached Standards and Guidelines are controlling in terms of the administrative direction adopted by our decision. Except for the section regarding application of the decision to management activities with signed NEPA decisions or decision documents before the effective date of this Decision, the text of the Record of Decision are not so controlling, but instead may be used as a guide in interpretation and application of the Standards and Guidelines.

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The following discussion clarifies our Decision and provides rationale for making this Decision. In order to facilitate the Agencies' implementation of this Decision, the actual direction adopted by this Decision is separately contained in the attached Standards and Guidelines (Attachment 1).

Alternative 1 was identified as the proposed action and Preferred Alternative in the Draft and Final SEISs. Among the alternatives considered, Alternative 1 will best meet the Purpose and Need for the proposed action of reducing costs and increasing clarity of the Survey and Manage and related standards and guidelines by:

- integrating Protect from Grazing and most Protection Buffer Standards and Guidelines into Survey and Manage, thereby eliminating inconsistent and redundant direction;
- reorganizing the Survey and Manage Categories to better reflect information about the species and to better clarify the protection needed; and,
- adding a detailed process for adding, removing, or changing species categories in the future.

Alternative 1 would do these things while providing approximately the same level of species protection intended in the 1994 Northwest Forest Plan. As modified by this Decision, Alternative 1 will provide species outcomes equal to or greater than the No-Action Alternative for each of the more than 400 species covered by the Final SEIS at less cost.

Summary of the Decision

This Decision integrates the Northwest Forest Plan direction for Protect From Grazing and most Protection Buffers into Survey and Manage, thereby eliminating duplication and conflicting direction. This Decision also eliminates separate direction for recreation areas, modifies the direction for certain bat roosts, and modifies the Protection Buffer direction for Canada lynx and certain cavity nesting birds. The Decision reorganizes Survey and Manage into six species categories based on species rarity and other characteristics, to better align species groups with management objectives. The Decision retains the three management elements of Survey and Manage of *manage known sites*, *survey prior to habitat-disturbing activities*, and *conduct landscape-scale (strategic) surveys*. In fact, for many species remaining on Survey and Manage, the specific management elements applicable to them are not changed by this Decision. Direction for many other species, however, is changed in response to new information about the species. These changes include the removal of 72 species from these standards and guidelines in all or part of their range, based on new information regarding their abundance, habitat association, or presence in the planning area. This Decision retains direction to manage known sites of

Protection Buffer species, although it removes their automatic designation as small, species-specific Late-Successional Reserves and Managed Late-Successional Areas.

This Decision also provides direction for the preparation of Management Recommendations and Survey Protocols, the conduct of Strategic Surveys, and the review of specified actions by the Regional Ecosystem Office (REO) or the Regional Interagency Executive Committee (RIEC). The Decision also provides a process and criteria for an annual review of new species information to determine when species should be assigned to different categories, or added to or removed from, Survey and Manage (hereafter referred to as the Species Review Process).

This Decision replaces only the five specific mitigation measures that were added to planning documents of the administrative units as part of the Northwest Forest Plan adopted April 13, 1994, and shown in Appendix B of the Final SEIS. Other standards and guidelines of the Northwest Forest Plan remain unaffected and apply to Survey and Manage as in the past. For example, the Northwest Forest Plan standard and guideline direction giving precedence to existing laws and regulations (1994 Northwest Forest Plan Record of Decision [ROD] p. C-1) still applies. Required deference to health and safety issues already being implemented by the Agencies are not affected by this Decision. Any exceptions or alternative methods described for research (Northwest Forest Plan ROD p. C-4) or for Adaptive Management Areas (Northwest Forest Plan ROD pp. C-21 and D-1 through D-17) continue to apply. Further, since many of the elements of the attached standards and guidelines are reformatted but otherwise borrowed from the No-Action Alternative, implementation memos and other policy interpretations not affected by changes in the standards and guidelines continue to apply unchanged by this Decision. Existing Management Recommendations and Survey Protocols continue to apply (for species still requiring management of known sites or pre-disturbance surveys) until revised.

Key Elements of the Decision

Species Review Process - Our decision establishes an annual Species Review Process for evaluating the latest information about taxa is key to the long-term success of Survey and Manage. Survey and Manage was applied to the Northwest Forest Plan as a mitigation measure to provide additional protection for species that, because of rarity or endemism, might not be adequately protected by the broad-scale, ecosystem approach of the Northwest Forest Plan. For truly rare or endemic species, Survey and Manage is expected to continue to contribute to their persistence for the foreseeable future. We also expect to discover previously unknown species which will benefit from this measure.

On the other hand, many other species were included in Survey and Manage because the Agencies do not yet have sufficient information about how the reserves and other

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Standards and Guidelines of the Northwest Forest Plan (other than Survey and Manage) provide for their persistence. For these species, we expect future information to indicate that other standards and guidelines of the Northwest Forest Plan provide a reasonable assurance of persistence. We note, for example, that while 72 species will be removed from Survey and Manage in all or part of their range by this Decision, there are numerous others still on Survey and Manage for which the number of known sites has increased 5 to 15 times since the Northwest Forest Plan was adopted in 1994, and such species are likely to be removed in the future. We expect to gain additional information about species even faster from the strategic surveys emphasized in the attached standards and guidelines.

The annual Species Review Process is critical to applying this new information. With this process and the detailed criteria defining the Survey and Manage categories and concern for persistence, changes can be made annually, as appropriate, to eliminate excessive protection or to add protection where it is insufficient. This ongoing process will ensure that Survey and Manage continues to be applied as needed. One long-term result of this process will be a shift from the Survey and Manage species-specific approach toward a more broad-scale approach to species management integral to the original design of the Northwest Forest Plan's conservation strategy. As noted in the Adaptive Management discussion in the Summary of the Final SEIS, as more is learned over time, and consistent with sound principles of conservation biology and adaptive management, the Agencies need to work toward a more complementary and efficient application of these two approaches.

Additional NEPA Not Anticipated for Annual Changes to Species Assignments - The Species Review Process is expected to result in species being added, removed, or changing categories in Survey and Manage, as the results of surveys are compiled and as dictated by the specific criteria for such changes provided by this Decision. The parameters for making adaptive management changes are part of the standards and guidelines, and changes made within these parameters would not constitute a change to these standards and guidelines or constitute new effects not already anticipated and addressed in the Final SEIS. Such changes are also not expected to constitute "plan" changes in the context of the National Forest Management Act or the Federal Land Policy and Management Act. Prior to implementing the changes resulting from the Species Review Process, the Agencies will examine whether the magnitude and nature of changes indicate a need for additional environmental analysis (e.g., an Environmental Assessment), or whether the potential effects to species are consistent with the effects anticipated by, and described in, the Final SEIS. The results of this examination will be documented and summarized in the Annual Status Report.

It is not anticipated that changes made pursuant to the annual Species Review Process will require annual NEPA documentation for three major reasons. First, the parameters for

making such changes are clearly delineated and part of these standards and guidelines. Second, adjustments made pursuant to the annual Species Review Process are fully expected to occur and are included in the set of assumptions on which the effects analyses of the Final SEIS have been made. Third, the status of species relative to the standards and guidelines should remain consistent with, and at least as secure as, that reflected in the Final SEIS, given that the criteria guiding the Species Review Process have been designed in large measure to achieve such consistency. The Agencies will evaluate such changes over time to ensure their application is having the intended result and their accumulated effects are within the scope anticipated by this SEIS. If such effects rise to the level exceeding that scope at some point in the future, supplemental NEPA analyses will be conducted as appropriate pursuant to 40 CFR 1502.9(c).

Because some changes to category assignments are expected to occur annually, the Agencies will create a summary of changes and brief statement of reasons (similar to Tables F-1 and F-2 in the Final SEIS), create new lists of species category assignments with species addition or removal dates, establish an effective date for the changes, and make timely publication of this information in the Annual Status Report. The Annual Status Report can be obtained by writing to the Survey and Manage Program Manager as described under “Contact Person” near the end of this Decision. Future NEPA documents prepared by the Agencies for habitat-disturbing activities will identify if any of these expected future changes in categories will be applied to the planned activity, or will reference a specific year’s assignments, as documented in the Annual Status Report, that appropriately applies to that activity or project. Grace periods described in the attached standards and guidelines for species being changed or removed by this Decision will apply to future changes, according to the effective date of these changes. (The annual Species Review Process is conducted according to the standards and guidelines adopted by this Decision, and will not change the standards and guidelines themselves.)

Strategic Surveys - Our Decision includes a requirement to conduct strategic surveys for all species on Survey and Manage. These surveys add greatly to the information available to the annual Species Review Process and for other management decisions. For all species, strategic surveys will be designed to address the information gaps identified during the annual Species Review Process. The Species Review Process and the updating of the Strategic Survey Implementation Guide must be closely linked (and followed closely by the Annual Status Report). Similarly, criteria used to identify when strategic surveys are completed are also linked to the deliberations of the Species Review Panel, and this panel will help determine when such surveys should be considered completed.

Strategic surveys are particularly important for Category B species, species for which such surveys are the primary method of finding new sites (and for which 5- and 10-year deadlines are established), as well as for Category E species that are rare but do not require

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pre-disturbance surveys. We recognize sites for these species will also be located incidental to pre-disturbance surveys for other species in their same taxa groups.

Strategic surveys, particularly those carefully designed to collect statistically rigorous samples, will provide data about habitat association, relative distribution, and population status far more efficiently than pre-disturbance surveys, because information from statistically rigorous samples can be extrapolated throughout the sample area. Such data will substantially improve the conduct of the Species Review Process that, until now, has had to rely more heavily on the absolute numbers of known sites. Species sites found with sampling can scientifically support broader conclusions about the species being studied. In the future, displays of numbers of sites in summary tables accompanying the Species Review Process records, such as the site numbers in Tables F-1 and F-2 in the Final SEIS, will have less meaning and in fact, could be very misleading, since a few sites found with samples will have vastly different implications to projections of overall species populations than the same number of sites found with pre-disturbance or other non-statistical methods. It will be critical that the Species Review Process make appropriate consideration of data from statistically rigorous samples, and be able to reflect that consideration in the records of that process.

Provision to Add Species - This Decision allows the Agencies to add species to Survey and Manage if they determine, through the Species Review Process and subsequent RIEC review, that these species need these provisions to provide a reasonable assurance of persistence. This will help keep the land and resource management plans amended by the Northwest Forest Plan current with species needs, serve as a method of reinstating species if new information indicates a new level of concern regarding persistence, and permit adding newly identified and named species if they meet the Three Basic Criteria for Survey and Manage.

Prophysaon coeruleum (Blue-Gray Tail-Dropper) - In our Decision, we are removing *Prophysaon coeruleum* from Survey and Manage in the Oregon portion of its range. The effect's discussion in Chapter 3&4 of the Final SEIS displays data for the currently described species and evidence for why this mollusk could represent several as yet undescribed species, and provides an estimate of effects if that is true. For reasons discussed in the "Reasons for the Decision" section of this Record of Decision, however, we are choosing to treat these sightings as belonging to one species, and our Decision removes *Prophysaon coeruleum* from Survey and Manage in a portion of its range, as recommended by the Species Review Panel.

Non-late-Successional Forest Species Being Considered for Other Programs - Of the 72 species removed from Survey and Manage by this Decision, 22 species are removed from Survey and Manage only because they are not closely associated with late-successional

(which includes old-growth) forests (and therefore do not meet the three basic criteria for inclusion in Survey and Manage)(see Table 1-2 in the attached standards and guidelines).

Any residual concern for these 22 species is being addressed by the fact that they are already on, or are currently being considered for inclusion in, the Agencies' special status species programs. Some of them may not qualify for these programs because there is little or no perceived risk to these species. In fact, the effects discussion in the Final SEIS projects stable populations similar to reference distributions, the highest outcome, for eight of these species. A final decision by the Agencies regarding whether or not to include each of these species in their special status species programs will result in the species either being managed under the guidelines for those programs, or removed from any special protections and known sites being released to other activities as with the other 50 species being removed by this Decision. The final determination of this consideration will be included in the Annual Status Report. Management of known sites for all 22 of these species is required for all activity decisions made between the effective date of this Record of Decision and the date the decision regarding inclusion in special status species programs is finalized.

Relationship to the Need to Treat Hazardous Fuels - The Survey and Manage Standards and Guidelines apply to all habitat-disturbing management activities, including prescribed fire and other fuel reduction treatments. However, the standards and guidelines include an *exemption*: pre-disturbance surveys are not required for wildland fires for resource benefits in designated Wilderness. Wildland fires for resource benefits are prescribed fires resulting from natural ignition, are consistent with the applicable land and resource management plan, are addressed in a fire management plan, and are burning within prescription. In addition, *exceptions* to the pre-disturbance survey requirement, subject to RIEC review, may be proposed for other wildland fires for resource benefits in backcountry, Wilderness Study Areas, roaded natural, and similar areas where the objective of such fires is similar to those in Wilderness. Similarly, exceptions to the pre-disturbance survey requirement may also be proposed for wildland fire for resource benefits in Late-Successional Reserves if the Late-Successional Reserve Assessment, also subject to RIEC review, addresses the potential presence and likely effect on Survey and Manage species. For the exceptions described in this paragraph, RIEC may delegate its review authority to REO.

We see the need to integrate the dual management goals of reduction of risk of future large-scale, high-intensity fire and conservation of habitat for Survey and Manage species. To meet this need, Management Recommendations should give specific consideration to the acceptability and appropriate application of prescribed fire in known sites of Survey and Manage species whose historic range includes fire dependent ecosystems (such as the east side of the Cascades and the Klamath Provinces), even if it entails some short-term risk to individual site occupancy. In general, it is our expectation that restoration of the

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natural fire regime is compatible with the long-term conservation of these species, and is an incidental benefit to the hazardous fuels reduction program.

Within the priorities established through these Survey and Manage Standards and Guidelines, managers may emphasize opportunities for streamlining the implementation of these provisions in response to recent emphasis on fuels management, especially around urban areas. Streamlining could include an approach that prescribed fire might best be handled within Management Recommendations for groups of species, or give priority to Strategic Surveys within fire prone areas.

Timing of “Pre-disturbance” Surveys - The attached standards and guidelines, as well as discussion in the Findings section of this Record of Decision, make clear that the requirement for pre-disturbance surveys applies to, and will be conducted before, decision notices are signed for activities. The “pre-disturbance” title too characterizes the types of activities for which these surveys are required. They are not required for all projects, all activities, or all decisions. Conversely, they may be required for activities not requiring a NEPA decision. Pre-disturbance surveys are required, as described in the attached standards and guidelines, if the planned activity is “likely to have a significant negative impact on the species’ habitat, its life cycle, microclimate, or life support requirements.” The decision to conduct such surveys, and their actual conduct, will precede the decision notice.

Five and Ten Year Deadlines for the Completion of Strategic Surveys for Category B - The 5 and 10 year deadlines for the completion of strategic surveys for Category B, and other deadlines times noted in the standards and guidelines, will begin with the effective date of this Record of Decision.

Additional Mitigation for 10 Mollusk Species - In addition to the standards and guidelines for Alternative 1 in the Final SEIS, our Decision adds direction to manage species’ sites known as of September 30, 1999, for two mollusks, and adds equivalent-effort pre-disturbance surveys for eight mollusks. This aspect of our Decision is explained in more detail under “Mitigation” later in this section.

Management Recommendations for Certain Bat Roosts and Cavity Nesting Birds - The Northwest Forest Plan standards and guidelines for these two groups of species have been rewritten, placing overall management goals and objectives in standards and guidelines, and placing some of the specific details into Management Recommendations so they can be revised more easily as new information becomes available. These Management Recommendations should be revised when new information indicates a need, following the process for revising Management Recommendations for Survey and Manage species. These are not Survey and Manage species, however, and there is no stated requirement that

Management Recommendations prepared for these species conform to the standards and guidelines of Management Recommendations for Survey and Manage species.

Programmatic Decision Does Not Authorize Activities - This Decision does not authorize habitat disturbing activities or other site-specific actions. This Decision amends existing land and resource management plans with provisions that help manage or protect certain late-successional forest associated species from disturbances and loss of habitat during other activities. The basis for the conduct of other management activities including timber sales is found in other parts of these plans according to each Agency's planning regulations, as well as in other laws and regulations governing the Agencies' missions.

Programmatic Decision Does Not Change Probable Sale Quantities for Administrative Units - This Decision does not assign or otherwise estimate Probable Sale Quantity (PSQ) for individual administrative units. The analysis of PSQ effects has been done at the range-wide scale and does not have the precision necessary to estimate PSQ at smaller scales. Effects at the administrative unit level will vary from this regional-level analysis based on the amount of a habitat on the individual administrative unit, the number of species ranges that fall within the unit, future detection rates, and so forth. Any future modifications to National Forest and BLM District level PSQ will need to be based on an accumulation of these specific unit-level effects and made through the plan update processes prescribed by each Agency's regulations. At the range-wide scale, however, the PSQ effects calculated here are considered to be reasonable estimates, sufficient to meet the objective of comparing differences between the alternatives.

Additional Mitigation Measures

Mitigation measures avoid, rectify, reduce, or eliminate potentially adverse environmental impacts of management activities. They may include avoiding the impacts altogether, minimizing impacts by limiting the magnitude of an action, rectifying the impact of an action through repair, rehabilitation or restoration, reducing or eliminating the impact over time, or compensating by replacement or substitution (CFR 1508.20). The Survey and Manage and other standards and guidelines amended by this Decision are themselves mitigation measures for the 1994 Northwest Forest Plan. They do not, in themselves, authorize any management activities. We have reviewed, however, the effects of Alternative 1 operating as a mitigation measure for other elements of the Northwest Forest Plan including the activities likely to be proposed or conducted under other elements of the land and resource management plans of the individual administrative units, and are adding additional mitigation measures to Alternative 1, as described below, with our Decision.

The outcomes for 10 species under alternatives other than Alternative 1 are anticipated to result in more stable populations, suggesting mitigation or improvements to Alternative 1

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are possible. Table 2-14 in the Final SEIS, “Species With Outcomes That Vary By Alternative,” shows the 10 species, all mollusks, where habitat provided by Alternative 1 would be insufficient to support stable populations of the species, but where at least one other alternative is projected to result in stable populations. We note, in the record and in the discussion of these findings in the effects section of the Final SEIS, that there is controversy regarding the basis for such different findings between alternatives that are so similar. But, we are choosing, as with other species effects discussed in the Final SEIS, to place a high level of confidence on the conclusions of the agency experts on the SEIS Team and take the Final SEIS findings at face value.

Two of these mollusks, *Megomphix hemphilli* in California and south of Lincoln, Benton, and Linn Counties in Oregon, and *Monadenia churchi*, are projected to achieve stable populations under Alternative 2 because sites known as of September 30, 1999, will be managed as known sites. The other eight, *Ancotrema voyanum*, *Deroceras hesperium*, *Helminthoglypta hertleini*, *Hemphillia pantherina*, *Monadenia chaceana*, *Monadenia fidelis klamathica*, *Monadenia fidelis ochromphalus*, and *Pristoloma articum crateris*, are projected to achieve stable populations under Alternative 3 because of the requirement for equivalent-effort surveys.

In this Decision we are adopting these two provisions, manage sites known as of September 30, 1999, for the two species, and equivalent-effort surveys for the other eight species. We are adopting these provisions to ensure we are achieving stable populations for as many of the Survey and Manage species as practicable, and optimizing biological diversity, within the parameters of the Purpose and Need of the Proposed Action. By adopting this additional mitigation, for example, our Decision better complies with the BLM Special Status Species direction to ensure actions on BLM administered lands do not contribute to the need to list the species under the Endangered Species Act. (See the Conflicts With Other Plans section of the Final SEIS).

Five of the eight species receiving equivalent-effort surveys are already subject to pre-disturbance surveys in the No-Action Alternative, so the essentially identical equivalent-effort survey requirement becomes effective immediately, with no phase-in period. The development of Survey Protocols for the remaining three species would normally fall under the Survey Protocol phase-in language in the standards and guidelines, but since these species are rare, have limited ranges, and habitat-disturbing activities are limited only to grazing, we direct the Agencies to prepare Survey Protocols and initiate surveys (where and when required by other elements of the standards and guidelines) as soon as practicable.

The following discussion refers to “categories” as defined in the Glossary for the Standards and Guidelines (Attachment 1).

These mitigations are to remain in effect for the periods described as follows:

- For the two species for which the “manage known sites as of 9/30/99” provision applies, continue this mitigation as long as they remain in Category F.

Explanation - If future information about these species, analyzed and considered through the Species Review Process as described in the standards and guidelines, indicates they no longer belong on Survey and Manage, this mitigation is no longer needed. If such information shows a sufficient concern to move them to a category requiring management of known sites or high-priority sites, this mitigation would be moot.

- For the eight species for which the “equivalent-effort surveys” provision applies, continue this mitigation as long as the species remain in Categories B or E and strategic surveys are not completed.

Explanation - If future information about these species, analyzed and considered through the Species Review Process as described in the standards and guidelines, indicates they do not belong on Survey and Manage, this mitigation is no longer needed. If such information indicates pre-disturbance surveys are practical and they are moved to Category A, the mitigation is moot. If such information changes their relative rarity to “uncommon,” concern for persistence is lower and this mitigation is no longer needed. Finally, completion of strategic surveys according to one or more of the completion criteria included in the standards and guidelines for strategic surveys is expected to provide sufficient information about the species and its habitat for the Species Review Process to determine if some combination of the three management elements of Survey and Manage provide a reasonable assurance of persistence. If such a determination cannot be made, this additional mitigation will be retained.

The above conditions rely on the Species Review Process as described in the standards and guidelines, including its criteria for defining categories and defining concern for persistence, RIEC review, and publication of results in the Survey and Manage Annual Report. Like the process for changing species between categories, the above conditions and criteria are well defined and are expected to be implemented without further NEPA analysis.

We envision the possibility that circumstances or information other than those described above may, in the future, indicate these additional mitigation measures are not having their desired effect and should be discontinued. An example of such circumstance may be evidence that equivalent-effort surveys are having little success at finding any extant sites. Such a circumstance, and the related proposal to remove one or more of these measures, is

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outside the scope of our Decision today and would require appropriate future NEPA analysis.

For all but one species, the species outcomes are the same across all alternatives but the level of uncertainty in that outcome varies between alternatives. For the portion of the range of the lichen *Usnea longissima* that is in Oregon, except in Curry, Josephine, and Jackson Counties and in Washington, all alternatives are projected to provide stable populations. However, the level of uncertainty surrounding this prediction is high under Alternative 1 and low under Alternative 3 (see Table 2-12 in the Final SEIS.) We are not applying any of the elements of Alternative 3 in this instance because the number of sites has increased from four to approximately 100 since 1994 without pre-disturbance surveys, and the Species Review Panel chose to assign it to Category F, the least restrictive. Therefore, application of additional mitigation in this instance is not warranted.

Some effects discussions indicate retaining all late-successional forests might provide some benefit for some rare species, but generally not enough to change outcome projections. Many of the projections of unstable outcomes, or conclusions that information was insufficient to project an outcome, were for species so rare that no alternative would ensure stable populations. These findings are similar to those in the 1994 Northwest Forest Plan Final SEIS.

No other practicable mitigation measures were revealed by the analysis in the Final SEIS.

Monitoring

Monitoring for the Survey and Manage Standards and Guidelines will continue to follow the monitoring direction included in the Northwest Forest Plan. The primary objective of monitoring relative to Survey and Manage species is to evaluate progress toward meeting species persistence objectives. Modifications will build upon new information identified in the November 2000 Survey and Manage FSEIS and compiled in future years during the annual Species Review Process. Sources of new information that will contribute to monitoring, and help identify the specific monitoring questions, include pre-disturbance and strategic surveys, as well as publications, research results, public, academia, and other sources.

The Northwest Forest Plan Record of Decision monitoring section at pages E-4 through E-10 identifies three types of monitoring:

1. Implementation monitoring for the Northwest Forest Plan began in 1996 and has been conducted annually. Future Northwest Forest Plan implementation monitoring protocols will be revised as needed to address these standards and guidelines.

2. Effectiveness monitoring for Survey and Manage is expected to be most appropriately addressed as part of the Biological Diversity effectiveness monitoring (as described in the Northwest Forest Plan Record of Decision, page E-8) and is expected to focus on multiple species and habitat relationships. Also some of the special monitoring issues and situations discussed on pages E-10 and 11 are particularly relevant.

3. Validation monitoring questions described in the Northwest Forest Plan that relate to Survey and Manage substantially overlap with the questions that strategic surveys are designed to address. Strategic surveys, and the annual analysis that is part of the Species Review Process, are generally expected to contribute to meeting validation monitoring objectives.

Application to Contracts, Permits and Special Use Authorizations

The management direction provided by this Decision applies to new contracts, permits and special use authorizations as required by BLM and Forest Service planning statutes and regulations.

Application of this Decision to management activities in the planning phase or with signed NEPA decisions or decision documents as of the effective date of this Decision

Note: The following discussion supercedes all of the language in the Final SEIS under the heading *Application of this Decision to Activity Planning in Progress* on pages 29 and 30. The following direction is consistent with effects assumptions described in the Final SEIS, Chapter 3&4, including the assumption beginning at the bottom of page 193 that, since November 1, 1996, the requirement to conduct pre-disturbance surveys applied only to activities without signed NEPA decisions or decision documents, and that activities with signed decisions were assumed, for analysis purposes, to have already taken place.

Background – Oregon Natural Resources Council (ONRC) Action et al v. USFS, BLM, CV 98-942WD (W.D. Wash.)

The Agencies' proposal to change the Survey and Manage Standards and Guidelines that culminated in this Decision preceded the initiation of the ONRC Action litigation which challenged, in part, the Agencies' interpretation of the Northwest Forest Plan's requirement to phase-in certain pre-disturbance survey requirements. The Agencies had directed that the date of the NEPA decision or decision document was the point of "implementation" for phasing-in the staged Survey and Manage requirements. In August 1999, the Court found the Agencies' direction was not consistent with the language of the Northwest Forest Plan Record of Decision and ruled that pre-disturbance surveys were required for all Category 2 species after October 1, 1998, up until the ground was disturbed, thus overruling the

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Agencies' direction. The court relied on the language of the Northwest Forest Plan Record of Decision, not any controlling language or interpretation from an enabling statute.

This Decision amends the Northwest Forest Plan to make clear the following: The Agencies' direction requires pre-disturbance surveys only for management activities in a planning phase that do not have a signed NEPA decision or decision document, as described below and in the attached standards and guidelines. The application of this Decision to projects with signed NEPA decisions or decision documents is also discussed below.

For Management Activities in the Planning Phase with No Signed NEPA Decision or Decision Document as of the Effective Date of This Decision:

All standards and guidelines attached to this Decision apply to these types of management activities, as described within the standards and guidelines.

For management activities with signed NEPA decisions or decision documents before the effective date of this Decision:

a. For activities under an awarded contract or signed permit, or if actual habitat-disturbance has already commenced using agency crews, then:

No Survey and Manage requirements in this Decision are applicable to these actions, unless the activity is an awarded timber sale identified under the Stipulation to Dismiss in ONRC Action as needing red tree vole surveys. For those sales, red tree vole surveys should be completed. The Agencies will conduct these surveys according to the protocol in effect at the time when the surveys are initiated, and will manage resultant sites in accordance with the Management Recommendations in effect at the time the surveys are conducted, modifying the awarded timber sale and contract as necessary.

b. If activities are not under an awarded contract or signed permit, or actual habitat-disturbance by agency crews has not begun, no Survey and Manage requirements in this Decision are applicable to these activities except:

1) If the NEPA decision or decision document was signed after September 30, 1996, and red tree vole pre-disturbance surveys were not conducted, conduct red tree vole surveys in accordance with the protocol in effect at the time the surveys are initiated, and manage resultant sites according to the Management Recommendation in effect at the time surveys are concluded; and,

2) previously managed known sites of species removed from Survey and Manage or assigned to Category F by this Decision are released for other resource activities as described in the attached standards and guidelines; and,

3) sites of species requiring management of known sites under the attached standards and guidelines will be managed as described under *Application of Manage Known Sites Direction* under the Timing Requirements for Surveys section in the attached standards and guidelines.

3. Public Involvement

Introduction

Public involvement with issues surrounding the Northwest Forest Plan has been long and detailed. The Forest Service, for example, tried four times to develop a strategy for the northern spotted owl, efforts which culminated in more than 100,000 public comments and the Northwest Forest Plan addressing more than 1,100 late-successional forest associated species on a landscape scale. Additional efforts, including the 1991 report *Alternatives for Management of Late-Successional Forests of the Pacific Northwest*, and the 1993 Forest Service report of the Scientific Analysis Team *Viability Assessments and Management Considerations for Species Associated with Late-Successional and Old-Growth Forests of the Pacific Northwest* (from which the Protection Buffer standards and guidelines originated), as well as Northwest Forest Plan-related lawsuits, monitoring, and interagency cooperation have made the Agencies well acquainted with the issues and nuances surrounding the management of late-successional forests and their associated species.

To this knowledge base, and the experience with the Survey and Manage and related standards and guidelines beginning in 1994, the Agencies have added comments from scoping for the Final SEIS, scoping for a related Environmental Assessment done in 1998, public and internal comments received during a 90-day public comment period following release of the Draft SEIS in December 1999, and comments received after release of the Final SEIS in November 2000.

Scoping

Scoping is the term used to identify issues, concerns, and opportunities associated with the proposed action in an environmental impact statement. According to Council on Environmental Quality (CEQ) regulations, scoping is specifically not required for supplements to environmental impact statements (CEQ Regulations Implementing NEPA, 40 Code of Federal Regulations (CFR) 1502.9(c)(4)).

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The Agencies, however, did conduct scoping for the SEIS. A Notice of Intent to prepare the SEIS was published in the Federal Register (63 FR 65167) on November 25, 1998. The Notice of Intent provided preliminary information about the proposed action and invited public comment. In late December 1998, the Agencies distributed a letter to approximately 1,200 individuals and groups identified as potentially interested in the proposed action and analysis. The letter provided additional detail about the analysis and also invited public input. The Agencies received 66 letters in response to the Notice of Intent and the letter.

Scoping also borrowed from the scoping done for the 1994 Northwest Forest Plan SEIS (see pp. 1-3 and 1-4 in the 1993 Draft SEIS), the public comments on the Northwest Forest Plan Draft SEIS (see Appendix F in the 1994 Northwest Forest Plan SEIS), and the 80 public comments to the Agencies' October 7, 1998, environmental assessment proposing a 1-year delay in surveys prior to ground-disturbing activities for 32 Survey and Manage species. This scoping helped define the issues and, subsequently, the range of alternatives presented in Chapter 2 of the Final SEIS.

Public Comments on the Draft SEIS

The public comment period for the Draft Supplemental Environmental Impact Statement for Amendment to the Survey and Manage, Protection Buffer, and Other Mitigation Measures Standards and Guidelines (Draft SEIS) began on December 4, 1999, and closed on March 3, 2000.

During the 90-day public comment period, approximately 3,900 comments were received in the form of letters, postcards, facsimiles, and e-mails (collectively referred to as letters). Letters were received from a variety of interests including: scientists, individuals, organizations, businesses, Advisory Committees, Federal and State Agencies, Tribal governments, and elected officials.

All of the letters received during the public comment period were processed and the substantive comments were compiled into "comment statements." Comment statements are summary statements that identify and describe specific issues or concerns identified in the letters. Unique concerns generated their own comment statement and similar concerns voiced in multiple letters were grouped into one comment statement. The comment statements, along with the one or more letter excerpts that led to each comment, were reviewed and the information was used in the preparation of the Final SEIS. An explanation of how each comment was used in, or relates to, the Final SEIS is included in the Final SEIS in Appendix I. Comment letters from other agencies, elected officials, and tribes are included in their entirety in Appendix H of the Final SEIS. Also included in Appendix H are letters from the Interagency Advisory Committee (IAC) and a number of Provincial Advisory Committees (PACs) established by the Northwest Forest Plan.

One hundred seventy-one letters were received after the close of the comment period. These letters were reviewed and any substantive information they contained was considered in the preparation of the Final SEIS.

Several areas of controversy were raised in comment letters. These areas of controversy with a brief explanation of how they were addressed in the Final SEIS are listed below. This is not a complete summary of all public comments received.

- *A “no old-growth harvest” alternative should be considered.* The Final SEIS did not include a “no old-growth harvest” alternative because such an alternative is not suggested by the “Needs” statements in the Final SEIS, and an alternative that did not harvest late-successional and old-growth forests was already considered in the 1994 Northwest Forest Plan Final SEIS. Such an alternative would be outside the scope of this analysis, and would not meet the balance in the “Purpose” statement adapted from the Northwest Forest Plan.
- *The annual Species Review Process is based too much on professional judgment and too little on well-defined, analytical criteria.* The Agencies have determined that the proposed, more qualitative criteria coupled with professional judgment will result in more appropriate management for the species because the sometimes limited data available about individual species must be weighed in the context of species distribution, habitat quality and distribution, levels of survey effort, and so forth.
- *Individual arthropod species are excluded from future inclusion in Survey and Manage.* The concern for arthropods that led to their inclusion in Survey and Manage in 1994 was for the role of certain functional groups in high fire frequency areas, and hence they were included only as functional groups in the 1994 Northwest Forest Plan. Overlap in function, rapid speciation, narrow geographic distributions of individual species, and other factors indicate that continuing this group approach is most appropriate.
- *At least one mollusk species may actually be multiple species not yet described in published taxonomic literature.* This point is well detailed in the effects section of the Final SEIS, and is discussed in detail in the “Reasons for the Decision” section of this Record of Decision.
- *The Agencies’ taxa specialists may not be sufficiently knowledgeable to describe effects to species in this SEIS.* The Agencies’ taxa specialists who contributed to the Final SEIS are highly qualified, experienced personnel who have drawn from all currently available information about these species. The fact that the public comment period resulted in very little new information about species is testament to the

thoroughness of the taxa specialists in gathering and incorporating relevant information.

- *The costs of implementing the alternatives exceed current budget levels.* The Final SEIS contains specific assumptions about funding. We note the Agencies have opportunities to reduce those costs, particularly through vigorous pursuit of strategic surveys and designation of high-priority sites for Category C and D (uncommon) species. The standards and guidelines are structured so that species are protected regardless of funding levels. We are committed to also accomplishing the level of timber harvest, restoration, and other forest management activities that are an integral part of the Northwest Forest Plan and its underlying land and resource management plans. Finally, since much of the cost is included in the planning and implementation of specific projects, it would be difficult or impossible to set priorities here or discuss in more detail what may or may not happen at various funding levels. We expect to be able to implement this decision as described. The selected alternative is considerably more efficient and less costly than the No-Action Alternative, as indicated in the Final SEIS (Table 3&4-6, page 417).
- *Alternative 2 puts too many species at risk, and timelines are too restrictive.* Alternative 2 is not the selected alternative, in part because of these concerns.
- *Alternative 3 does not meet the balance of species protection and timber harvest described in the Northwest Forest Plan.* Alternative 3 is not the selected alternative, in part because the balance was not satisfactory.

Public Comments on the Final SEIS

The absence of an agency appeal period applicable to this Decision invokes a CEQ requirement, 40 CFR 1506.10 (b)(2), to delay signing this Record of Decision for at least 30 days following publication of the notice of availability of the Final SEIS in the Federal Register on November 24, 2000. During this 30 days, five letters were received by the Agencies and routed to the SEIS Team for evaluation and consideration by the decision makers.

All comments included in the five letters were reviewed and considered. The comments summarized and responded to here represent the major substantive ones that: (1) were not addressed in the Final SEIS as a comment received on the Draft SEIS, (2) addressed a change in the Final SEIS from the Draft SEIS, (3) addressed an issue that would benefit from the increased clarity that could be provided here in a response, and (4) were received by the SEIS Team by December 27, 2000. A more comprehensive discussion of all

comments received on the Final SEIS is available from the Final SEIS administrative record.

Comment: The “overall goal” of “stable, well-distributed” populations is not met, and the glossary definition of persistence objective says gaps in normal biological functions and species interactions are OK. These are not acceptable and are not consistent with the persistence objectives of 1994 Northwest Forest Plan.

Response: The persistence objectives are described in detail on pages 42 and 43 of the Final SEIS, and are described as “the same as those described in the Northwest Forest Plan ROD.” This detailed definition is included in the standards and guidelines attached to this decision, and the glossary included in the standards and guidelines has been edited to more clearly conform with that definition.

Comment: The Final SEIS proposes to remove the Canada lynx from Protection Buffer status and instead manage the species under provisions of the Lynx Conservation Assessment and Strategy. By doing this, the Agencies have removed requirements for surveys and site-specific management plans that would result in less protection for the species than exists under current management, thereby inappropriately substituting protection standards applicable to ESA as a means of meeting management requirements under NFMA. Further, the Agencies have narrowed the definition of suitable habitat to exclude the Oregon Cascades as part of the species’ range. The Agencies should convene a team of biologists to analyze and address these issues.

Response: The level of protection provided by the standard and guideline adopted through this decision results in actions not adversely affecting the Canada lynx, based on implementation of the existing Conservation Agreement between the Forest Service and Fish and Wildlife Service, and the lack of suitable lynx habitat on BLM lands in the planning area. The Lynx Conservation Assessment and Strategy provides the basis for effects determinations. The protection standards that apply in this decision fully meet the requirements of NFMA for providing for species viability, as well as meet standards for ESA compliance. The current definition of suitable habitat and the mapping criteria for suitable habitat of the species are adopted from standards developed by the Canada Lynx Science Team. The application of these mapping criteria has resulted in portions of the Cascades in both Oregon and Washington being included in the mapped species’ range. Therefore, an interagency team of species specialists, biologists and managers have already addressed and analyzed these issues.

Comment: The Agencies will not complete surveys to locate bats at roost sites, and justify this change to the standards and guidelines under the false premise that surveys are harmful to bats. Failure to do these surveys could result in the loss of bat roost sites since lack of

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presence/absence data prior to habitat disturbing activities in habitat used by bats could result in loss of presumed unoccupied sites. Further, additional habitats, including foraging habitat, must be protected.

Response: The standard and guideline that we adopt for bat roosts as part of this decision incorporates modifications made as a result of input from species experts and public comments. Changes proposed in the Draft SEIS and Final SEIS to pre-disturbance survey requirements to ensure that bats are not adversely affected by these surveys could result in some sites not being identified as occupied and, consequently, not being managed to protect bats that might occupy the site. Therefore, we have modified the bat standard and guideline from that proposed in the Final SEIS to include a provision that the applicable bat roost sites would be managed as occupied sites until surveys meeting protocol conditions can be conducted, and bat presence or absence documented. However, we have chosen to not provide additional categories of roost sites, or other habitats (e.g., foraging habitat) to the list of applicable structures, as these additional protection measures are not necessary at this time to meet the purpose and need of these mitigation measures, or to provide a reasonable assurance of persistence for bat species. This revised standard and guideline is presented in its entirety in the Standards and Guidelines attached to this proposed Record of Decision.

Comment: Exempting all “routine maintenance” from pre-disturbance surveys is not appropriate. These decisions should be made on a case-by-case basis considering the condition of the habitat and the species potentially present.

Response: The Agencies and their permittees have both legal and fiscal responsibilities for maintaining structures, roads, and other improvements. The periodic removal of vegetation encroaching onto earth-fill dams, for example, is critical to their structural integrity. Further, encroaching vegetation or debris is not late-successional forest habitat and can be removed with little risk to species considered dependent on late-successional forests. If a Survey and Manage species site happens to be present, it is likely incidental or otherwise not important for meeting overall species persistence objectives, or may indicate that the species is not associated with late-successional forest habitat. The standards and guidelines permit the identification of such unimportant habitats or conditions on a species-by-species basis. In this instance we are exempting routine maintenance in situations that indicate a low likelihood of the presence of important sites, the low risk of adversely impacting late-successional forest dependant species, and the existing need to conduct routine maintenance. The effects discussions in the Final SEIS were prepared with this exemption in mind.

Comment: The range of alternatives is inadequate. The Agencies should not just consider alternatives to “mitigation,” but should consider alternatives to the “actions” (e.g., logging) conducted under the Northwest Forest Plan.

Response: As identified in The Underlying Need for the Proposed Action section in Chapter 1 of this SEIS, the problems identified for the Survey and Manage and related standards and guidelines center around unclear, overlapping, or unnecessary (given species persistence objectives) direction. This is a very narrow need and, thus, the range of alternatives is appropriately focused. The Survey and Manage Standards and Guidelines have not been applied or monitored long enough to make any broader conclusion about their adequacy or effectiveness. Additional time is needed to give the current approach a chance to work. Broader consideration of the Survey and Manage Standards and Guidelines would require reconsideration of their role in the overall Northwest Forest Plan and potentially a reconsideration of other elements of that plan. Nothing so far in the Agencies’ experience with the Survey and Manage mitigation measure indicates that there is a need for reconsideration of other elements of the Northwest Forest Plan at this time.

Comment: It appears from Table F-1 that the Species Review Process - 2000 only looked at one action alternative. This is inconsistent with NEPA's mandate to consider all reasonable alternatives.

Response: The Species Review Process did not design the alternatives or conduct the effects analysis. The Species Review Process reviewed existing information about species and applied the criteria that define the level of rarity, survey practicality, or current knowledge of the species’ status; these criteria are common to all of the action alternatives. Since Alternative 1 has a specific category for each of these three questions, the Panel expressed their determinations by assigning an Alternative 1 category to each species. The species information in Table F-1 and F-2 summarizes some of the key information the Panel used for their assignments.

As shown in Table S-1 on Page xi in the Final SEIS, and explained in more detail in the Introduction to the Action Alternatives, pages 32-37 in the Final SEIS, Alternatives 2 and 3 are built from Alternative 1 by directly combining categories, their associated criteria, and the species assigned to them. The alternatives differ by the management prescribed for each category, not by the criteria or species associated with the categories. Therefore, the work of the Species Review Panel and the resultant information in Tables F-1 and F-2 are not alternative-specific, even though the Alternative 1 categories are included in the tables.

Comment: Strategic surveys must be targeted to the habitat that is most at risk of destruction. This was the intent of the Category 3 surveys in the 1994 ROD.

Response: The Category 3 standards and guidelines do not include a requirement to set priorities based on risk. Instead the language acknowledges that time and location-specific surveys are not practical, and that the nature of species included in Category 3 will mean that surveys will take several years to be completed. The standards and guidelines for strategic surveys attached to this decision, however, allow considerable latitude for the type and location of surveys to be tailored to management and conservation needs, including identified species concerns. Proposive surveys (see definition in Glossary) in particular are designed to quickly find more sites (if they exist) and lessen species concerns. Further, strategic surveys for Category 1B, where most of the Category 3 species have been assigned, have a deadline for completion which effectively minimizes potential site disturbances. Also, the selected alternative adds manage known site direction for an additional 92 species (mostly Northwest Forest Plan ROD Category 3 species) which the Agencies determined would improve management.

Comment: The Final SEIS shifts the balance or risks established by the Northwest Forest Plan by increasing PSQ while making species viability more uncertain. The Final SEIS admits to clarifying species objectives but relies on the original Northwest Forest Plan need to sell timber. History shows the 1993/4 economic “sky falling” has evaporated. As a result, the Agencies must reconsider the Northwest Forest Plan at a more fundamental scale.

Response: The balanced purpose of the Proposed Action and the species persistence objectives were the same as for the 1994 Northwest Forest Plan Final SEIS. This is visible in the Final SEIS in several ways: As indicated in the Purpose statement language of “...while continuing to meet the underlying needs of the Northwest Forest Plan identified in the 1994 Final SEIS, including providing for the viability of late-successional and old-growth associated vertebrate species, and providing for a similar standard for non-vertebrates to the extent practicable” (Final SEIS page 10); as explained on pages 42-43 of the Final SEIS, the species persistence objective for the November 24, 2000, SEIS is the same as for the 1994 Northwest Forest Plan Final SEIS; and, for Alternative 1, meet the needs statements “...while providing approximately the same level of species protection intended in the Northwest Forest Plan” (Final SEIS page 33.) Further, with the mitigation for 10 mollusks included in this decision, the selected alternative achieves the same or higher outcomes as the No-Action Alternative. The selected alternative meets the species persistence objective and also responds to other Needs statements by achieving an estimated 94 percent of the currently approved Northwest Forest Plan PSQ and similarly affecting restoration and other potentially habitat-disturbing activities.

Comment: Local identification of high-priority sites should not be permitted. High-priority sites cannot be identified until (at a minimum) the strategic surveys are done. High-priority sites must fit into a larger management strategy for the species.

Response: Twenty-four species, of the 346 remaining on Survey and Manage in the action alternatives, are sufficiently numerous to be placed in “uncommon” categories (as opposed to “rare”) where the standards and guidelines call for Management Recommendations to describe high-priority sites for management. Sites for these species are often heavily concentrated in localized areas, but remain on Survey and Manage because of uncertainty regarding representation in nearby reserves or because of more scattered sites in other parts of their range. These are species for which, by definition, there is no need to manage “all” known sites to achieve a reasonable assurance of persistence. For these 24 species only, and only until Management Recommendations are revised to address high-priority sites, local determination (and project NEPA documentation) of non-high priority sites may be made on a case-by-case basis with: (1) guidance from the Interagency Survey and Manage Program Manager; (2) local interagency concurrence (BLM, FS, and USF&WS); (3) documented consideration of the condition of the species on other administrative units as identified by the Program Manager - typically adjacent units as well as others in the species range within the province; and, (4) identification in ISMS. The Survey and Manage Program Manager will involve appropriate taxa specialists in this determination. This coordination, and the application of this provision only to uncommon species (those with a moderate level of concern), should continue to permit the standards and guidelines to achieve a reasonable assurance of persistence for the affected species.

Comment: The Final SEIS Biological Evaluation reports that 24,800 acres of forest habitat are removed from known site designations as a result of removing 72 species from survey and manage mitigations. The Biological Evaluation provides several reasons for why this change in site protection would result in “no effect” to the northern spotted owl and other species. Part of the justification for this determination is that 24,800 acres is insignificant when compared to the approximately 200,000 acres of Riparian Reserve that have been added based on new information developed in the 6 years of NFP implementation. These findings are flawed, since the FSEIS reports that the actual removal of forested habitat under the Preferred Alternative when compared to the No-Action Alternative is 402,000 acres. Therefore the Biological Evaluation must be rewritten.

Response: The approximately 24,800 acres of known sites that would be returned to the underlying land allocation as a result of removal of 72 species from Survey and Manage mitigation represents the actual number of acres known to be affected by the changes implemented through this decision. The approximately 200,000 acres allocated to Riparian Reserves during 6 years of implementing the NFP are a reasonable tally of acres known to lie within Riparian Reserves. These figures are reported in the Biological Evaluation and elsewhere in the Final SEIS as the Agencies’ best estimate of actual acres affected by this decision. In contrast, the 483,000 acres of forest that are estimated for Survey and Manage known sites under the No-Action Alternative, and the 81,000 acres estimated for Alternative 1 (net difference of 402,000 acres) are projections estimated for 25 years of

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implementation of the NFP, based on past surveys for species sites. As these are only projections, we report only on acres known to be affected by the action, rather than on projections of future events.

The known or projected acres to be managed as species sites during present and future implementation of these standards and guidelines may change. However, it is important to note that the primary reasons that listed and other species would not be affected by returning these acres to their underlying land allocations remain valid. These changes would not alter the environmental baseline for listed species or result in changes in impacts to listed species that were not anticipated in the analysis of the 1994 Northwest Forest Plan. No particular benefits were ascribed to listed species from management of known sites for Survey and Manage species for three primary reasons. First, since Survey and Manage species were considered to be relatively rare, and individual sites are small, the contribution of late-successional forest on these sites to other species, on the scale of the NFP, is considered insignificant.

Second, since species would be removed from Survey and Manage requirements in the future based solely on the merits of that particular species (i.e., independent of other species that may occur on the known sites of the Survey and Manage species being removed), no long term benefits were ascribed to other species from those managed known sites of the species being removed. Thus, known sites of Survey and Manage species were not assumed to provide habitat in perpetuity for other species because the target Survey and Manage species could be removed from the list of covered species and protection of known sites for that species eliminated, if circumstances warrant.

And third, since the actual number of sites of Survey and Manage species was not completely known, and the actual location of these sites was not predictable other than in a general sense, it was not possible to assume any particular level or juxtaposition of habitat protection for other species. This unpredictability of amount or location of these habitat areas precluded assigning any particular degree of short- or long-term benefit to non-target species (such as listed species). Based on these factors, the removal of 72 species in all or part of their ranges from Survey and Manage, and future changes to species categories, would not alter the environmental baseline for other species, including species listed under ESA, and would not result in adverse impacts not previously considered.

In addition, future activities including, but not limited to timber harvest, road construction, or application of prescribed fire, might be proposed on these “returned” sites, but would be evaluated individually or programmatically through the consultation process for their direct and indirect effects on listed species.

Comment: Under the Preferred Alternative, 186 species are reported in the Final SEIS effects analysis as Outcome 3 (habitat (including known sites) is insufficient to support stable populations of the species). Failure to provide sufficient habitat for these species would seem to be in conflict with Agency policy to avoid trends toward listing species under the Endangered Species Act. The agencies should avoid a decision that leads to greater risks of ESA listings.

Response: Of the approximately 400 species considered in the Final SEIS, many have so few known sites that their populations are considered to be inherently rare and potentially unstable by the taxa specialists who conducted the effects analysis. This instability is a function of the species rarity, rather than a result of actions that may be authorized under this and future planning processes. Most of the 186 species reported as unstable in the Final SEIS are known from less than 20 sites, and more than half of these species are known from five or fewer sites, despite surveys being conducted during six years of Northwest Forest Plan implementation. The management strategy implemented as a result of this decision should avoid trends toward listing these species through proactive efforts to find and manage known sites, including the preparation of Management Recommendations and Survey Protocols, and the implementation of strategic surveys and pre-disturbance surveys (where applicable). The outcomes for these 186 species is also the same across all alternatives, which means the Selected Alternative is consistent with the No-Action Alternative (and, hence, the Northwest Forest Plan Record of Decision).

Since this public concern applies primarily to fungi (164 of the 186 species with Outcome 3), the FSEIS discussion related to this issue (page 242) for this group is repeated here (although similar logic is applied where pertinent to other species groups):

There continues to be a high degree of uncertainty regarding the expected future condition of many of the fungal species due to their rarity within the Northwest Forest Plan area. Some species, such as Cortinarius speciosissimus (shown in the Northwest Forest Plan ROD as C. rainierensis), have not been collected in the Northwest Forest Plan area for more than 40 years despite concerted efforts to locate them (Ammirati et al. 1994) and may be extirpated within the Northwest Forest Plan area. Twelve other species of fungi included under the Survey and Manage Standards and Guidelines have not been observed in the last 30 years. All 13 of these species are probably extirpated in the Northwest Forest Plan area. Others are known from so few sites that they are highly vulnerable to random disturbance events such as catastrophic wildfire. Ninety-six species are known from five or fewer sites within the last 30 years and there is considerable uncertainty if any alternative would meet species persistence objectives. Sixty-one species of fungi are known from between 6 and 20 sites within the past 30 years and there are similar concerns for stability. These concerns for stability

cross all alternatives and are based primarily on the rarity of the species and not on management prescribed or denied by the alternatives. While there is some uncertainty due to incomplete understanding of species abundances and distributions, it does not seem possible to design an alternative consistent with the purpose and need for this SEIS that could eliminate much or all risk to the abundance and distribution of these species.

Under Alternative 1, 196 species of fungi would receive similar management or slightly greater protection compared to the No-Action Alternative.

Comment: The Final SEIS fails on NEPA grounds by deferring strategic surveys (and their determination of which populations are important, how to maintain connectivity between them, how much logging is too much) to an uncertain future time. Strategic surveys are important to determine how to manage Survey and Manage species, and there is no guarantee of adequate funding.

Response: The effects discussions in the Final SEIS include consideration of the strategic survey schedules in the standards and guidelines as well as the ongoing habitat-disturbance rates. The completion date requirement for Category 1B/2B covers fully two-thirds of the species remaining on Survey and Manage. Strategic survey start dates listed in the Draft SEIS for certain categories were removed because current Agency strategic surveys in progress make start dates moot. The effects of activities conducted before strategic surveys are completed (information is already coming from strategic surveys) is well considered. Also, the amended standards and guidelines offer substantially more protection for species than the 1994 extensive surveys and general regional survey requirement by adding known site management for 92 species, and the new categories clarify the objectives of strategic surveys in ways that permit the Agencies to efficiently and vigorously respond to those needs. This focus, and recent Agency experience, gives the Agencies considerably more confidence strategic surveys will be funded and accomplished efficiently than the previous extensive and general regional surveys.

4. Other Alternatives Considered in Detail, and Reasons They Were Not Selected

The No-Action Alternative

The No-Action Alternative includes Survey and Manage, with its four “categories” defined by the type of work needed: manage known sites, surveys prior to ground-disturbing activities, extensive surveys, and general regional surveys. Nearly 400 species are assigned to one or more categories, but the reasons for such assignments are varied and not

necessarily apparent. There is a provision calling for changing assignments and removing species “whose status is determined to be more secure than originally projected,” but the absence of a process or criteria makes such changes difficult or unworkable. Thus the Agencies are incurring much higher costs than necessary continuing to manage species for which the Survey and Manage provisions are no longer needed. The No-Action Alternative also includes two other similar provisions called Protect from Grazing and Protection Buffers, with about half of the Protection Buffer species also being on Survey and Manage. Most of the Protection Buffers also create small, single-species Late-Successional Reserves or Managed Late-Successional Areas, whose general management directions sometimes conflict with the species-specific direction in the Protection Buffer Standards and Guidelines. This duplication, overlap, and conflict results in confusion and additional costs. Because of the overlap and similarities, the Agencies have generally been managing the species in these three provisions together, not unlike the way they are combined in the action alternatives.

A comparison of the basic elements of management direction and their application to species on Survey and Manage for the No-Action and the action alternatives is displayed in Table ROD-1.

Although the No-Action Alternative would be included in the Final SEIS for comparison purposes even if it were not selectable, some respondents suggested that the No-Action Alternative should be retained. Reasons varied; several respondents preferred the amount of late-successional forest projected to be managed as known sites for species and even some of the species effects discussions in the Final SEIS note a benefit based on this acreage. However, retaining additional late-successional areas not specifically needed to meet persistence objectives for Survey and Manage species does not meet the Purpose and Need of the Proposed Action.

Other respondents believed the basic standards and guidelines of the No-Action Alternative were adequate, and the Agencies simply needed to be more proactive about changing category assignments and removing species in response to new information. These same respondents also argued that characterizing the No-Action Alternative in the Final SEIS as unchanging over time cast an unnecessarily rigid cloak over the No-Action Alternative which was clearly not the intent of the standards and guidelines. While we basically agree with these last two comments, we believe they support our Decision rather than detract from it.

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Table ROD-1. Number of Species in Each Element of Management Direction, by Alternative. Number of species to which manage known sites, pre-disturbance surveys, and strategic surveys applies for each alternative analyzed in detail in the Final SEIS, including the No-Action Alternative. This table is similar to Table 2-3 in the Final SEIS, but is updated to reflect the additional mitigation provided 10 mollusks.

Management Direction	Alternative			
	No-Action	Alt. 1 as modified	Alternative 2	Alternative 3
Manage Known Sites	272	327 ¹	301 ²	346
Pre-Disturbance Surveys	87	75 ³	57	322 ⁴
Strategic Surveys	338 ⁵	346	346	346
Remove From Survey and Manage	--	63 (and 9 in part of their range)	63 (and 9 in part of their range)	63 (and 9 in part of their range)

¹ Includes 2 species with mitigation to manage sites known as of 9/30/99.
² Locks known sites at 9/30/99 level for additional 45 species.
³ Includes eight species with mitigation of equivalent-effort surveys.
⁴ Includes “equivalent-effort” surveys, which are similar in conduct. Excludes three species with surveys not necessary.
⁵ Extensive and regional surveys combined in No-Action Alternative.

In the first situation, Alternative 1 as modified in this Decision represents very limited changes to the No-Action Alternative. It also accomplishes reassignments of species, an action clearly intended in the original standards and guidelines but for which no process or criteria were prescribed. In other words, keeping the No-Action Alternatives and changing species assignments would have effects very similar to Alternative 1. Alternative 1 is better, however, because it retains almost all of the elements of Survey and Manage and related mitigation measures, while clearly defining the process of changing species assignments.

In the second situation, the characterization in the Final SEIS of the No-Action Alternative is an accurate description of what it has become, rather than what we had intended it to be. Further, to attribute flexibility to the No-Action Alternative at this point would create a moving target against which comparisons between the alternatives would be impossible. We are rejecting the No-Action Alternative not because it fails to adequately protect species, but because Alternative 1 better meets the Purpose and Need by doing it more efficiently and with more clearly described implementation processes such as those for adaptive management.

Alternative 2 - Remove or Reassign Uncommon Species Within 5 Years

Alternative 2 is identical to Alternative 1 except the 45 “uncommon” species are combined into one category for which: Management of known species sites applies only to sites known as of September 30, 1999, pre-disturbance surveys are not required, and strategic

surveys are required to be completed within 5 years. At the end of 5 years, these species will be removed from Survey and Manage and those for which levels of concern meet the criteria for assignment to the Agencies' special status species programs will be added to those programs. A comparison of the basic elements of management direction and their application to species on Survey and Manage for Alternative 2 and the other alternatives is displayed in Table ROD-1. The relationship between the categories of Alternative 2 and the selected alternative is displayed in Table ROD-2.

Alternative 2 is not selected because of projected effects to three vertebrates. For Siskiyou Mountains and Del Norte salamanders, effects are projected as: "habitat of sufficient quality, abundance, and distribution to allow species to stabilize in a pattern altered from reference distribution with some limitations on biological functions and species interactions." Also, red tree voles are not projected to stabilize under this alternative. There is also a question whether these outcomes would meet policy goals or regulatory requirements of protecting the long-term health and sustainability of all of the Federal forests within the Northwest Forest Plan area and the species that inhabit them, in accordance with direction and authority provided in the Multiple-Use Sustained-Yield Act, the Federal Land Policy and Management Act, the Oregon and California Lands Act, the National Forest Management Act, and the Endangered Species Act.

The gain in annual harvest levels between Alternative 1 and Alternative 2 is less than 2 percent, or 15 million board feet per year. Annual costs of pre-disturbance surveys would be substantially reduced under Alternative 2 when compared to Alternative 1, by the removal of pre-disturbance survey requirements for 10 species. It is the elimination of these surveys for two of the vertebrates at risk, Siskiyou Mountains salamander and red tree vole, however, that makes up much of this savings. Existing information does not support stopping pre-disturbance surveys for these two vertebrates at this time. Also, the requirement to complete strategic surveys for the 45 "uncommon" species within 5 years, although consistent with the current intent of the Agencies, could be hampered if funding is limited and efforts are focused on the higher priority Category B species.

Alternative 3 - Add Equivalent-Effort Surveys and 250-Meter Rare Species Site Buffers

Alternative 3, the environmentally preferred alternative, is basically identical to Alternative 1 except: The known sites for the 301 "rare" species are managed with a 250-meter buffer, equivalent-effort pre-disturbance surveys are required for 258 species for which regular pre-disturbance surveys are considered not practical in Alternative 1, and known sites for 21 uncommon, status undetermined species would be managed. A comparison of the elements of management direction and their application to species on Survey and Manage for Alternative 3 and the other alternatives is displayed in Table ROD-1. The relationship

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between the categories of Alternative 3 and the selected alternative is displayed in Table ROD-2.

Alternative 3 is not selected because the standardized outcome statements show no difference between Alternative 3 and Alternative 1 as modified (although some species discussions note a small but generally inestimable increase). The effect of the 250 meter buffers on species persistence is estimated to be small when compared to Alternative 1, partly because Management Recommendations under Alternative 1 require known sites to be managed large enough to provide “a reasonable likelihood of persistence of the taxon at that site.” As noted in the timber harvest section, these larger buffers are estimated to account for much of the 285 million board feet (38 percent of approved PSQ) reduction of harvest levels when compared to Alternative 1. The effect of the “equivalent-effort” surveys is to more than double the cost of application of the Survey and Manage mitigation measure from an estimated \$28 million to \$60 million, per year. While these surveys would probably find some more sites, and there are therefore some marginal effects reflected in some of the species effects discussions in the Final SEIS, the estimated gain in species persistence is generally not enough to change the species outcomes between alternatives. (For a description of species “outcomes,” see discussion of outcomes under Reasons for the Decision, or the glossary of the standards and guidelines attachment to this Decision). The tradeoffs to achieve the marginal species effects, in terms of costs and effects on other forest management activities, are substantial. We note that some species sites expected to be found with equivalent-effort surveys would probably be found anyway through strategic surveys and during “practical” surveys for related species conducted in proposed activity areas.

Table ROD-2. Comparison of categories for Alternatives 1, 2, and 3. Categories are based on relative rarity, practicality of pre-disturbance surveys, and status.¹

Alternative 1 as modified - Redefine Categories Based on Species Characteristics			
Relative Rarity	Pre-Disturbance Surveys Practical	Pre-Disturbance Surveys Not Practical	Status Undetermined
Rare	Category 1A - 57 Species - Manage All Known Sites - Pre-disturbance Surveys - Strategic Surveys	Category 1B - 222 Species ² - Manage All Known Sites - N/A - Strategic Surveys	Category 1E - 22 Species ³ - Manage All Known Sites - N/A - Strategic Surveys
Uncommon	Category 1C - 10 Species - Manage High-Priority Sites - Pre-disturbance Surveys - Strategic Surveys	Category 1D - 14 Species ⁴ - Manage High-Priority Sites - N/A - Strategic Surveys	Category 1F - 21 Species ⁵ - N/A - N/A - Strategic Surveys
Alternative 2 - Remove or Reassign Uncommon Species Within 5 Years			
Relative Rarity	Pre-Disturbance Surveys Practical	Pre-Disturbance Surveys Not Practical	Status Undetermined
Rare	Category 2A - 57 Species - Manage All Known Sites - Pre-disturbance Surveys - Strategic Surveys	Category 2B - 222 Species - Manage All Known Sites - N/A - Strategic Surveys	Category 2C - 22 Species - Manage All Known Sites - N/A - Strategic Surveys
Uncommon	Category 2D - 45 Species - Manage All Sites Known as of 9/30/99-----> - N/A-----> - Strategic Surveys Completed in 5 Years----->		
Alternative 3 - Add Equivalent-Effort Surveys and 250-Meter Rare Site Buffers			
Relative Rarity	Pre-Disturbance Surveys Practical	Pre-Disturbance Surveys Not Practical	Status Undetermined
Rare	Category 3A - 301 Species - Manage All Known Sites with 250-Meter Buffers-----> - Pre-disturbance Surveys---> Equivalent-Effort Surveys-----> - Strategic Surveys----->		
Uncommon	Category 3B - 24 Species ⁴ - Manage High-Priority Sites-----> - Pre-disturbance Surveys---->Equivalent-Effort Surveys-> - Strategic Surveys----->		Category 3C - 21 Species - Manage All Known Sites - N/A - Strategic Surveys
<p>¹ The number of species in each category is per date of this Decision, and will change over time as described in the standards and guidelines for Adaptive Management.</p> <p>² Includes seven species with additional mitigation of equivalent-effort pre-disturbance surveys.</p> <p>³ Includes one species with additional mitigation of equivalent-effort pre-disturbance surveys.</p> <p>⁴ Includes three species with surveys practical but not necessary because enough sites have been identified to provide a reasonable assurance of persistence. Management Recommendations need to be written to define high-priority sites.</p> <p>⁵ Includes two species with additional mitigation to manage sites known as of 9/30/99.</p>			

5. Reasons for the Decision

Alternative 1, as modified by this Decision, is the selected alternative. Alternative 1 was the Proposed Action and was identified as the Preferred Alternative in the Draft SEIS and in the Final SEIS. The alternative was modified between Draft and Final in response to public comment, as discussed above.

Response to the Four Issues Identified in the Final SEIS

We are selecting Alternative 1, as modified by this Decision, because it best meets the Purpose and Need of the Proposed Action and provides the most balanced response to the issues, as discussed below. Of the issues presented below, Issues 1 and 4, meeting species management objectives and meeting resource output objectives respectively, specifically address the balanced Purpose of the Northwest Forest Plan reflected in the Purpose statement in the Final SEIS. Issues 2 and 3 relate to the specific Needs statements that led to development of the Final SEIS. The Final SEIS was initiated not because of significant concerns for species, but primarily to revise the standards and guidelines to better identify priorities and needs, eliminate confusing and conflicting language, better define the adaptive management process, and reduce costs and impacts to other forest management activities to the extent possible while continuing to meet species persistence objectives. A discussion of each issue follows:

1. Will alternatives, in concert with other elements of the Northwest Forest Plan, meet species management objectives of the Northwest Forest Plan?

Yes. The effects discussions for each species presented in Chapter 3&4 of the Final SEIS include projections about long-term outcomes for each species under each alternative, similar to the outcomes originally used by the 1993 Forest Ecosystem Management Assessment Team's expert species panels and used, in part, to initially assign species to Survey and Manage. These outcomes, and the basis for them, are discussed in detail in Chapter 3&4 of the Final SEIS, summarized and compared in Chapter 2, particularly Table 2-13, and listed individually on Table 2-12. With the additional mitigation for 10 mollusks, our Decision results in outcomes equal to or greater than outcomes in all other alternatives including No-Action, for all species.

For the 22 species proposed for removal because they are not closely associated with late-successional forests, available information is being analyzed and these species will be added to the Agencies' special status species programs or otherwise receive active protection measures, if needed. For some of these species, the effects discussions in the Final SEIS project stable, well-distributed populations (Outcome 1). Species for which no

concern for persistence exists likely will not qualify for these programs and known sites will be released for other resource management activities.

For the other 50 species being removed from these standards and guidelines in all or part of their range, 38 have Outcome 1 (habitat of sufficient quality, abundance, and distribution to allow species to stabilize in a pattern similar to their reference [natural] distribution), and four have Outcome 2 (habitat of sufficient quality, abundance, and distribution to allow species to stabilize in a pattern altered from reference distribution with some limitations on biological functions and species interactions). Both of these outcomes project stable populations in the long term, and all of these outcomes are considered to have low or moderate uncertainty. Two have Outcome 4 (information is insufficient to determine an outcome) because of high uncertainty about species occurrence in the Northwest Forest Plan area, and six have Outcome “not applicable,” being removed because they were synonyms of other species or are known not to exist in the planning area.

The 353 species outcomes for species remaining on Survey and Manage (some species have more than one outcome because portions of their ranges are discussed separately) are summarized on Table 2-13 in the Final SEIS. Those effects, adjusted to reflect the mitigation assigned to 10 mollusk species, are: For 86 species, the Final SEIS projects Outcome 1, and an additional 45 are projected as Outcome 2. To the extent we can be confident in these projections, (many acknowledge substantial uncertainty), these are secure outcomes. We expect the Northwest Forest Plan, including Survey and Manage as specified, to provide for the long-term stability of these species.

For 176 species (164 fungi and 12 lichens) current information indicates there is insufficient habitat to support stable populations of the species, an effect that applies to all four alternatives and is similar to results predicted in the 1994 Northwest Forest Plan Final SEIS. As discussed above, no alternative within the scope of the Final SEIS, and for most of these species no alternative at all, would change this outcome. There are an additional 46 species for which information is insufficient to determine an outcome. Some of these species are reported from one or two sites and have not been seen in 30 years. In fact, over 100 species considered here are known from five or fewer sites. Certainty of protection is not possible. Alternative 1, as modified by our Decision, provides species outcomes equal to or better than the No-Action Alternative, could not be designed to achieve any higher level of outcomes because of their rarity and the difficulty in locating them during any reasonable survey effort, adds needed protection for all included species to the extent practicable within the scope of this mitigation measure, and meets applicable regulations as described below.

To help ensure that the Agencies continue to meet species management objectives after conducting the annual Species Review Process, we are adding language to the standards

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and guidelines requiring the Species Review Panel's recommendations to be disseminated to lead and cooperating agency taxa experts in draft form for at least 30 days to identify errors, conflicting information, or other evidence that should be included with the information presented by the panel to the Regional Interagency Executive Committee. Also, prior to the annual application of results, the Agencies will examine whether the magnitude and nature of changes indicate a need for additional environmental analysis (e.g., an Environmental Assessment). The results of this examination will be documented in a Findings of Administrative Review document and summarized in the Annual Status Report.

Our Decision particularly considers the adequacy of the standards and guidelines for the 222 Category B species, those that are rare and for which pre-disturbance surveys are not practical. The selected alternative will continue to meet species persistence objectives for several reasons. First, strategic surveys will be completed within 5 years for the 33 non-fungi species, and within 10 years for the 189 fungi species, or activities in old-growth will cease or proceed only after completion of equivalent-effort surveys. Second, sites of these species will also continue to be found, as they are now, during required pre-disturbance surveys for other species within their taxa.

Third, requiring Alternative 3's equivalent-effort surveys for these species is not the most efficient use of agency resources (funding and personnel) because we expect very low probabilities of locating occupied sites through such efforts, and they would drain needed resources from strategic survey efforts which have a much higher probability of obtaining useful information on the species. Last, Survey and Manage is a mitigation measure, and even practical pre-disturbance surveys are not anticipated to find every site. Eighty-six percent of the late-successional forest in the planning area is within reserves, and other standards and guidelines protect additional areas in Matrix. The reserves serve as the primary conservation element for most of the Survey and Manage species. Survey and Manage is a mitigation measure designed to increase confidence in the overall Northwest Forest Plan, and predictions of success of this measure must be viewed in that context.

2. Will alternatives focus implementation budgets and personnel to those species, habitats, and proposed activities where management is needed to meet species objectives?

Yes. The 72 species being removed from Survey and Manage in all or part of their range currently account for 65 percent of the currently known site acreage for all species currently on Survey and Manage. Removing these species because they no longer meet the Survey and Manage basic criteria frees up personnel and other agency resources spent conducting surveys and recording additional locations, managing these sites during activities, and continuing to track them in record systems. Additionally, our Decision applies pre-disturbance surveys only to species for which such surveys are practical,

removing the current and apparently unintended requirement in the No-Action Alternative to conduct multiple-year, multiple-visit pre-disturbance surveys. Strategic surveys will more efficiently find sites and gain information about these species and aid future management. These two items in particular, the removal of 72 species no longer needing Survey and Manage and applying the pre-disturbance survey requirement only to species for which such surveys are practical, as well as the other efficiencies gained by annually assigning species to categories based on need and new information, will permit agency resources of funding, and more particularly the time and expertise of the Agencies' experts, to be best focused on species where there remains a concern for persistence.

Our selected alternative removes the pre-disturbance survey requirement for seven species of fungi for which such surveys are not practical because they do not display themselves annually or predictably, and instead places more emphasis on strategic surveys for these species. This allows the Agencies to conduct surveys for these species when and where the conditions are more likely to discover their presence rather than requiring them to conduct surveys whenever and wherever a project is being planned. Conversely, the selected alternative adds pre-disturbance surveys for nine species of lichens, eight of them rare, for which such surveys have been determined to be practical. Like the other action alternatives, the selected alternative adds a strategic survey requirement for every species.

Alternative 2 is arguably more responsive to this issue, reducing pre-disturbance surveys even more and emphasizing the completion of strategic surveys for the 45 "uncommon" species. These species currently make up 75 percent of the known site acreage of the 346 species remaining in Survey and Manage with this Decision. However, Alternative 2 is not selected because it does not adequately meet Issue #1 for three vertebrates, and because it would add management of existing sites for 21 uncommon species that do not require such management under our Decision.

3. Will the alternatives clarify confusing and conflicting standards and guidelines?

Yes. Several Agency memos providing implementation guidance have been incorporated into the standards and guidelines adopted with this decision. In at least two cases, courts have previously found such Agency interpretations had no basis in the original standards and guidelines, and the new standards and guidelines correct this problem. Our Decision adds known site management for 92 mostly rare species for which the No-Action Alternative only requires extensive or general regional surveys. This corrects an apparent oversight in the No-Action Alternative; administrative units have been managing most known sites for these species and the standards and guidelines clarify that intent. Categorizing species based on practicality of pre-disturbance surveys is a major improvement of the selected alternative, requiring surveys where a reasonable effort can be expected to find sites if present, and allocating agency expertise and resources to strategic

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surveys for species more difficult to find. This clarifies Northwest Forest Plan language indicating species for which such surveys were “difficult” had not been intentionally placed in Category 2, the requirement for pre-disturbance surveys.

Our Decision integrates Protect Sites from Grazing and most Protection Buffer species into Survey and Manage, eliminating duplicate and sometimes conflicting direction. The selected alternative also removes the automatic designation of Protection Buffer sites as Late-Successional Reserves (LSRs) or Managed Late-Successional Areas (MLSAs). These small, single-species sites do little to contribute to the overall LSR and MLSA network but significantly complicate management by applying standards and guidelines sometimes at odds with direction for the target species, and unnecessarily adding to the green-tree retention requirements.

Perhaps most importantly, our Decision to select Alternative 1, as modified by this Decision, adds an adaptive management process with criteria for evaluating new information to add, remove, and change species between categories to best meet persistence objectives. This process, described in the attached standards and guidelines, finally provides the details and criteria for application of the Northwest Forest Plan’s direction for “moving a species from one survey strategy to another, or dropping this mitigation requirement for any species whose status is determined to be more secure than originally projected.” Efficiencies will be realized as species are assigned to categories, removed, or added to Survey and Manage commensurate with the level of concern for their persistence.

All three of the action alternatives are nearly equal relative to this issue, but the selected alternative will be the easiest to implement because species persistence objectives and various elements of management direction are most similar to past management under the No-Action Alternative. For example, Alternative 2 would differ from current direction by setting a new, higher standard for inclusion in Survey and Manage and directing “uncommon” species toward other Agency programs. Alternative 3 would add new “equivalent-effort” surveys, requiring preparation of survey protocols based on level of effort rather than on the “likely to determine the presence” approach in current usage.

4. Will the level of effects on other resource outputs and activities be consistent with those intended when the standards and guidelines were adopted in the Northwest Forest Plan?

Yes. The levels of timber and other resource outputs, restoration, and other potentially habitat-disturbing activities are discussed in part in the Socioeconomic Effects section of Chapter 3&4 (minerals, grazing, special forest products, commercial and subsistence fisheries, recreation, and lumber and wood products employment) and in the Timber Harvest section of the same Chapter. For timber harvest, the 1994 Northwest Forest Plan

Final SEIS included PSQ estimates for each BLM District and National Forest that reflected a 6 million board foot (MMBF) reduction in annual sales for then known sites. Future effects were not estimated in part because the species were so little known, that there was little information upon which to estimate effects, and little reason to believe it would be large. Hence, the 1994 Northwest Forest Plan Final SEIS described Survey and Manage as “add[ing] uncertainty” to harvest projections. Now, with 2-plus years of implementation finding many more sites than anticipated for some species, we project that the No-Action Alternative would reduce Probable Sale Quantity by approximately 37 percent, or 300 MMBF, from the currently approved Northwest Forest Plan PSQ level of 811 MMBF. Our Decision, by removing 72 species no longer needing Survey and Manage protection and establishing a process for future changes, reduces that effect to approximately 6 percent, or 50 MMBF.

For other resource management, we expect our Decision to have a similar result. Survey and Manage applies to all land allocations so the various impacts to resource management activities other than timber harvest applies to more than just Matrix lands. Extrapolating from the acreage projections in the timber harvest section, we would expect occupied species sites of Survey and Manage species under the No-Action Alternative to affect, and thus encumber, other activities to some degree, up to 42 percent of late-successional forests in all land allocations. For the selected alternative, this effect drops to about 7 percent of late-successional forests.

Only Alternative 2 does slightly better than the selected alternative for this issue, with a 4 percent or 35 MMBF reduction in harvest levels (when compared to the currently approved 811 MMBF), and a 5 percent effect to late-successional forests for certain other resource management activities. Alternative 3 does not respond to this issue as well as the No-Action Alternative, since it reduces PSQ by 44 percent or 355 MMBF, and potentially affects 50 percent of late-successional forests. Thus Alternatives 1 and 2 both respond to this issue well, and the effects of Survey and Manage on timber harvest for these two alternatives are certainly much closer to the level of effects discussed in the 1994 Northwest Forest Plan Final SEIS.

Rationale for Managing Blue-gray Tail-dropper (Prophysaon coeruleum) as One Species

Various evidence exists that some Survey and Manage “species” may actually represent two or more species. This is not surprising, since most of the species included on Survey and Manage are ones about which little was known in 1994. The most visible example of possible multiple species is the terrestrial mollusk *Prophysaon coeruleum*, where DNA and other evidence, as well as expert opinion, indicates the Agencies’ several thousand recorded sites may represent more than one, as yet unpublished, species. This evidence, and the implications to persistence if it indeed represents multiple species, is discussed in

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detail in the Final SEIS. We acknowledge and are willing to accept the risk to the possible, yet unpublished species. If, in the future, additional species are described and published, and meet the three basic criteria for Survey and Manage, the Agencies will consider adding them to Survey and Manage at that time.

Key to our Decision is the adoption of a provision for adding species to Survey and Manage in the future, a process that the Final SEIS indicates was specifically designed with potential additional *Prophyaon* species in mind. The provisions for adding species are designed for adding species to Survey and Manage when information about a species indicates a concern for persistence. The process for additions to Survey and Manage, however, applies only to species published in appropriate peer-reviewed journals accepted by the scientific community. This is a key determination point designed to be repeatable and consistent. But more importantly, this requirement assures there is a basis for applying management requirements, a species description upon which to base survey protocol, and a basis to define survey records. Without this requirement, Agencies would be forced to spend resources to develop survey protocols and maintain site records for undescribed species, and then start over again if and when publication delineates speciation on different criteria than the Agencies used. We are unwilling to commit limited resources to what could be a never ending cycle. In addition, the *Prophyaon coeruleum* added to Survey and Manage in the 1994 Northwest Forest Plan was known from one or two type-locations in Washington State. If the several thousand records now known in Oregon are indeed different species, they are arguably not on Survey and Manage. We believe they more appropriately fall under the new provisions adopted in the this decision for adding species to the Survey and Manage standards and guidelines.

The Species Review Panel considered the evidence, including that submitted as public comment, that the taxon represents more than one species. While aware that taxa specialists at least are convinced there is more than one species represented here, the Panel also recognized several other factors in making the recommendation reflected in the Final SEIS. First, the evidence is inconclusive regarding number of species because the available data indicating multiple species represents only a portion of the kind of information normally considered when establishing new species. Second, the Panel recognized that retaining undescribed species on Survey and Manage would force the Agencies into taxonomic research and conservative protection measures well outside the scope of Survey and Manage. Without species descriptions, there would be no way to apply basic elements of Survey and Manage such as identifying site records or writing and applying survey protocols. Finally, the Panel is appropriately concerned that treating *Prophyaon coeruleum* as several species at this time, without published, accepted species descriptions, would set a precedent that could make dealing with future “possible” species in Survey and Manage untenable.

Our Decision adopts the Panel's recommendation to remove *Prophysaon coeruleum* from Survey and Manage in Oregon primarily because the large number of known sites indicates other standards and guidelines of the Northwest Forest Plan adequately provide for its persistence. We concur that there is no published literature that describe a species other than *Prophysaon coeruleum*. Without clear descriptions of species we are not willing to commit limited resources to surveying and managing sites for undescribed species. We also agree that resolving the taxonomy of a species is beyond the mission of the Agencies. The US Fish and Wildlife Service does not resolve the taxonomy of species when considering a species for listing under the Endangered Species Act. We again are unwilling to commit limited Agency resources to do work that is outside their mission. We agree that it is untenable for the Agencies to commit future resource to dealing with "possible" species.

We considered retaining the species under the Survey and Manage standards and guidelines until the taxonomy of the possible new species are published or more information is available to update the survey protocols. We are reluctant to retain this species on Survey and Manage pending publication since such publication does not appear to be on the foreseeable horizon. Even if such publication were close, existing agency site records do not contain data with which to classify or separate sites between such possible species definitions. Further, to retain the species and ask the Agencies to examine the speciation further, while perhaps not unheard of, falls beyond the "extent practicable" standard for this mitigation measure suggested in the Purpose statement in the Final SEIS. Finally, retaining this species begs the question "for how long". We are reluctant to write criteria to answer that question when reasonable criteria are already included in the attached standards and guidelines and were correctly applied by the Species Review Panel.

Our Decision concurs with the recommendation of the Species Review Panel, as reflected in the Final SEIS, and removes *Prophysaon coeruleum* from Survey and Manage. As one species, information supports its removal from Survey and Manage. If it is multiple species, then we believe waiting for publication of the taxonomy about the new species is necessary before the Agencies are asked to commit limited resources. The occurrence of several thousand sites found during a few years of limited pre-disturbance surveys suggests to us that no matter how the species are delineated, at least one does not, and perhaps none would, need Survey and Manage in the future. But in any event, that decision rightfully needs to be made following publication of new taxonomic entities and not be based on the current limited indicators. The confusion that would result from retaining the species now, and the precedent it would set for similar situations in the future, could make it very difficult to make future decisions without supporting taxonomic data.

6. Findings

Except as otherwise discussed below, this Decision builds on the findings of compliance with applicable laws found in the April 13, 1994, Record of Decision for the Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl, which this Decision amends.

Response to Court Decision and Settlement Agreement

On August 2, 1999, the U.S. District Court of the Western District of Washington, in Oregon Natural Res. Council Action v. United States Forest Service, 59 F. Supp. 2d 1085 (W.D. Wash. 1999), ruled that the Agencies' application of the Survey and Manage Standards and Guidelines was deficient in two ways. The Court found that the Agencies' memo defining "project implementation" as the date of the NEPA decision or decision document, and the Agencies' decision to exempt some habitat conditions from red tree vole surveys, were not consistent with requirements in the Northwest Forest Plan Record of Decision. In the first instance, the Court ruled that the existing Northwest Forest Plan Standards and Guidelines language of "prior to ground-disturbing activities that will be implemented" could not reasonably be construed to refer to the date the activity was authorized by the NEPA decision or decision document as the Agencies claimed, but instead applied to the date of actual ground disturbance.

We have considered the potential effects to species as well as the implementation feasibility of each interpretation. We believe the Agencies' previous interpretation is the most workable, and the standards and guidelines being adopted with this Decision better reflect our intent on this issue. Required surveys should be completed and the results included in project NEPA documents whenever practicable. This would have the added advantage that results would be available during the public review and comment process. Project schedules could be severely disrupted if the requirement for additional pre-disturbance surveys were imposed after the decision is made and final design, field layout, or contract preparation have begun. Therefore, the date of the NEPA decision or decision document is the cut-off date for the requirement to conduct "surveys prior to habitat-disturbing activities." The effects to species described in Chapter 3&4 of the Final SEIS were prepared in conformance with this interpretation.

In the second instance, in response to the Agencies' memorandum limiting red tree vole surveys to areas where connectivity may be an issue, the Court found no authority in the 1994 Record of Decision for the Northwest Forest Plan on page C-5 to limit the surveying for red tree voles to only those areas which were of concern for the species. The standards and guidelines adopted with this Decision will now permit the Agencies to be responsive to the known issues and concerns for each species. These standards and guidelines specify

that Survey Protocols "...should also identify habitat conditions or locations, or criteria for identifying such conditions locally, where surveys are not needed for a reasonable assurance of persistence, and thus surveys are not needed. Such habitat may include, but not be limited to, seral stages, stand age, stand complexity, or stand origin, where occupied sites, if present, are likely incidental, non-viable, or otherwise not important for meeting overall species persistence objectives."

Since the Court's decision rested solely on interpretation of Plan language which has now been altered by this Decision, that decision would be moot. The Court's decision on the conditional stipulation for dismissal recognized that the Plan could be changed in a manner which would supercede the interpretations by the Court.

Settlement Agreement Pursuant to the Above Decision

On December 17, 1999, the court approved a stipulation dismissing ONRC Action v. Forest Service action referenced in the preceding section. The Stipulation provides that it will expire and that the parties will petition the court to relinquish jurisdiction over the case without opportunity for reinstatement once a set of Survey and Manage amendments adopted pursuant to the Final SEIS are in effect, unless a court enjoins the decision.

National Environmental Policy Act (NEPA)

The NEPA requires that Federal agencies prepare detailed statements on proposed actions that significantly affect the quality of the human environment. The BLM and Forest Service have both integrated NEPA reviews with their land management planning regulations. For each agency, an environmental impact statement (EIS) accompanies its land management plans. The BLM and Forest Service will tier to the Final SEIS in NEPA documents on specific activities.

The Act's requirement to prepare an environmental impact statement is designed to serve two major functions: to provide decision makers with a detailed accounting of the likely environmental effects of a proposed action prior to its adoption; and to inform the public of, and allow it to comment on, such effects. The process leading up to this Decision has fulfilled both functions. First, the Final SEIS and referenced documents do a comprehensive job of compiling and considering all new relevant information. These data build upon information already compiled and displayed in the 1994 Northwest Forest Plan Final SEIS, including Appendix J-2. An indicator of the success of this effort is how few public comments were received questioning the compilation of data or its use. No more than five or six comments presented new information about species the SEIS Team did not already have. Thus, we have at our disposal the available information about these species,

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as well as a thorough analysis of the potential environmental effects associated with each of the alternatives, and thus the differences between them.

Second, there has been extensive opportunity for public involvement in the process. Scoping letters were sent to 1,200 individuals. The Draft SEIS was sent out to more than 4,000 persons, elected officials, agencies, and groups. The mailing list included those responding to the Notice of Intent published in the Federal Register or the scoping letter, those responding to an agency Environmental Analysis on Survey and Manage in 1998, and names from mailing lists from the various affected administrative units. A 90-day comment period was provided to comment on the Draft SEIS, and more than 4,000 comments were received. The Agencies used these comments to improve the Final SEIS analysis, and they have responded to each of the major substantive points, as well as others, raised in these comments. These responses are included in Appendix I of the Final SEIS

Moreover, we find that the process also complied with each of the major elements of the requirements set forth in the regulations that the Council on Environmental Quality has promulgated to implement NEPA. First, the Final SEIS considered reasonable alternatives. The Needs statements for the Final SEIS primarily indicate a need to clarify existing standards and guidelines.

Although the Purpose statement, adapted from the Purpose statement in the 1994 Northwest Forest Plan Final SEIS, is very broad, the Needs statements in the Final SEIS indicate that a focused range of alternatives was appropriate. The Agencies' experience with the overall effectiveness of Survey and Manage as a mitigation measure has been too short for us to have considered a broader range of alternatives at this time.

Second, the Final SEIS reflects consideration of cumulative effects of the proposed action and all other past, present, and reasonably foreseeable future actions within the planning area. Indeed, effects on species have been estimated out to 100 years and more. Moreover, although non-Federal lands are outside the scope of the Final SEIS, effects from their management have been considered in the Final SEIS to a degree appropriate for a programmatic NEPA document and the nature of the species involved.

Third, there is a substantial lack of information regarding many of these species. For 46 species, there was not sufficient information to project an outcome, even with a caveat of high uncertainty. It is this lack of information, however, that brings many of these species into Survey and Manage and to which the elements of Survey and Manage were specifically designed to respond. Also, it is important to note that it was generally not species concerns that triggered this SEIS, but the lack of standards and guidelines clarity, duplication, and unnecessary costs being incurred for unneeded protections. There was a need to change species protection levels, e.g. remove species from Survey and Manage or

add known site protection for 92 species only receiving extensive surveys, but even the No-Action Alternative anticipated such adjustments and the chief action in this Decision is to formalize and display the criteria for such changes, not the making of them. For these reasons, the focused range of alternatives is appropriate to respond to the Purpose and Need. As noted in the Incomplete or Unavailable Information section of the Final SEIS, relationships between the alternatives, and the levels of risk and the relative benefits of each of the alternatives, is clear. For these reasons, we conclude there is sufficient information in the Final SEIS to make a reasoned choice from among the alternatives.

New information came to light following release of the Draft SEIS, particularly from the compilation of the results of the Agencies' 1999 field surveys, and consequently, various changes were made to species assignments and provisions of the alternatives in response to comments and new data analysis. These changes are summarized on the cover pages for each of the major chapters in the Final SEIS. Probably the most substantive change between Draft and Final is the category reassignment of nearly 80 species based on conducting the Species Review Process in January-March, 2000. These changes, (the potential for which was identified in the Draft SEIS), were made following the process and criteria described in the Draft, and were made in response to an additional year of surveys and other information gathering. Approximately 17 of the changes were simply to move "status uncertain" species into better defined categories, 37 increased the level of species management, and 24 decreased the level of species management. Although the public did not have an opportunity to comment on these specific changes, the fact that changes would occur, and the criteria and process that would direct such changes, were clearly displayed in the Draft SEIS. Although some of these changes resulted from "fine tuning" the process (and those did not decrease the level of protection afforded to the affected species), the rest of these changes were the same as those expected during any given year's Species Review Process, a process described in the standards and guidelines of both the Draft and Final SEIS in detail, and for which the Agencies do not necessarily plan to conduct additional annual NEPA analysis. We have fully considered these and the other changes described on the cover page of each chapter in the Final SEIS. They have not altered the effects analysis from the Draft SEIS in any significant manner. Thus, we find no significant change and conclude that there is no need to prepare another Draft SEIS or to provide for additional public comment. New information will be considered, and supplements will be prepared and amendments adopted as the need arises.

This Decision does not authorize timber sales or any other specific activity on Federally managed lands. There is a requirement for additional public involvement and NEPA, ESA and other environmental law compliance before decisions are made to offer timber sales or conduct other land management activities. There are also opportunities for administrative appeals of site-specific decisions. This Record of Decision complies with 40 CFR 1505.2(b) & (c).

National Forest Management Act (NFMA)

The NFMA is an amendment to the Forest and Rangeland Renewable Resources Planning Act. In NFMA, Congress established a comprehensive notice and comment process for adopting, amending and revising Land and Resource Management Plans ("forest plans") for units of the National Forest System. Planning Regulations under the Act were promulgated in 1982 (36 CFR 219), and the Final SEIS upon which this Decision is based, and our findings as described below, are consistent with those regulations. Although new Planning Regulations became effective November 9, 2000, Section 219.35 of the new regulations permit land management plan amendments already initiated to be completed under the 1982 regulations.

Under 1982 Forest Service Planning Regulations, National Forest planning and decision making occurs at four levels: nationwide, regionwide, forest plan, and project. Our Decision covers lands administered pursuant to 2 regional guides and 19 forest plans, and involves two key elements of the (NFMA) and related regulations, as follows:

Diversity and Viability Provision of Fish and Wildlife Resource Regulation

The (NFMA) requires the Secretary of Agriculture to promulgate regulations to guide Forest Service planning. One of the statutory requirements is "specifying guidelines for land management plans developed to achieve the goals of the Program which provide for diversity of plant and animal communities based on the suitability and capability of the specific land area in order to meet overall multiple-use objectives." 16 U.S.C. 1604(g)(3)(B). In accord with this diversity provision, the Secretary promulgated a regulation in 1982, applied here, that provides in part: "Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area." 36 C.F.R. 219.19 (1982).

Because of the enormous complexity and dynamic nature of the ecosystems managed under the NFMA, there is no specific or precise standard or technique for satisfying these requirements, as recognized by the scientific community and many courts. The Committee of Scientists (May 4, 1979) that provided scientific advice to the Forest Service on the crafting of the initial NFMA regulations stated that "it is impossible to write specific regulations to 'provide for' diversity" and "there remains a great deal of room for honest debate on the translation of policy into management planning requirements and into management programs" (44 Fed. Reg. 26,600-01 & 26,608).

Numerous courts have also recognized that NFMA does not create any concrete standard for diversity. In fact, the court in Seattle Audubon Society v. Moseley, 798 F.Supp 1484 (W.D. Wash. 1992), stated that the Forest Service must use common sense and apply its

fish and wildlife expertise in implementing these requirements. The court also stated that, “The Forest Service argues that it should not be required to conduct a viability analysis as to every species. There is no such requirement. As in any administrative field, common sense and agency expertise must be applied” Id. at 1490. In its affirmation of the decision to adopt the Northwest Forest Plan, the U.S. District Court again made it clear that providing for species diversity on the forests was to be done in the context of the overall multiple-use objectives of NFMA. See SAS v. Lyons, 871 F.Supp 291, at 1315-1316 (D. W. Wash. 1994). On appeal, the Ninth Circuit described NFMA as inherently flexible on this point, and based on the fact that the defendants had not overlooked any relevant factors or made any clear errors held that the application by the Agencies of the viability regulation in the Northwest Forest Plan was reasonable. See SAS v. Mosely, 80 F.3d 1401, at 1404-1405 (9th Cir. 1996).

Relevant factors include the life history of species, the current amount and distribution of habitat, the amount and distribution of species' ranges within the planning area, and other reasonably foreseeable protective measures. The effects discussions in the Final SEIS address each of the more than 400 species covered by these provisions, and project, to the extent available information will allow, likely outcomes for those species over the next 100 years. Certainty is not possible and in fact the Final SEIS includes an estimate of the uncertainty associated with each persistence outcome. There is no way to avoid all risk to the continued persistence of species. Even absent any human-induced effects, the likelihood that habitat will continue to support species' persistence can vary among species. For example, the continued persistence of local rare endemic species whose entire range may comprise only a few acres is intrinsically insecure. Thus, compliance with the regulation is not subject to precise numerical interpretation and cannot be fixed at any one single threshold. The fact that the continued persistence of some species is insecure does not mean that the Agencies have failed to comply with any law or regulation.

By its own terms, the regulation applies only to vertebrate species. Nevertheless, consistent with the statutory goals of providing for diversity of plant and animal communities and the long-term health of Federally managed forests, as well as the Agencies' conservation policies, our Decision satisfies a similar standard with respect to non-vertebrate species to the extent practicable.

Although NFMA regulations apply to lands administered by the Forest Service, the fish and wildlife resource regulation was used as a criterion in the development of the alternative we selected, which includes direction for management of BLM administered lands. Use of the regulation's goals in developing alternatives applicable to BLM administered lands served the important policy goal of protecting the long-term health and sustainability of all of the Federally managed forests within the Northwest Forest Plan area and the species that inhabit them. This is in accordance with direction and authority

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provided in the Multiple-Use Sustained-Yield Act, the Federal Land Policy and Management Act, the Oregon and California Lands Act, and the Endangered Species Act.

In making a determination of compliance with the NFMA fish and wildlife resource regulation, we are considering the selected alternative and other reasonably foreseeable conservation measures. No one strategy or decision can for all time provide for the habitat needs of all species that exist in the planning area. Measures that may be considered include analyses and activities undertaken pursuant to internal policy directives (e.g., the Agencies' special status species programs) and steps taken at differing layers of planning. Regardless of the measures in place, actual on-the-ground conditions also should be considered to the extent practicable given available data. All activities remain subject to continuing site-specific compliance with Federal environmental law such as the Endangered Species Act, National Environmental Policy Act, Clean Water Act, Clean Air Act and others.

The fish and wildlife resource regulation does not require species-specific assessments. Rather, in accord with the theme of ecosystem management, a decision maker may place reasonable reliance upon assessments of (1) species with habitat needs that are roughly the same; (2) a group of species generally thought to perform the same or similar ecosystem functions; and/or (3) the continued integrity and function of ecosystem(s) in which a species is found. Flexibility in selecting methodology is especially appropriate in this context, given the expertise and knowledge of local forest officials concerning the lands they manage, the variety of complex issues involved, and the often limited resources available. In this situation, although the best information prohibits our making species-specific projections of "stable" outcomes for more than 200 species, those projections are entirely limited by species rarity, actual or perceived, and no alternative within the scope of the Final SEIS could improve on those projections. These species remain included on Survey and Manage because, together with other elements of the Northwest Forest Plan, all practicable measures are thus provided.

Survey and Manage is designed to address rare and endemic species. Over a hundred of these species are known from five or fewer sites. Standard species population descriptors such as "well distributed" must be interpreted within the context of the life history of these species. Persistence goals need to recognize natural rarity and gaps. For purposes of the analysis in the Final SEIS, then, "well-distributed" was defined as "distributed sufficient to permit normal biological function and species interactions, considering life history characteristics of the species and the habitat for which it is specifically adapted." The Final SEIS analysis considers four different, but natural, distribution patterns and relates species findings to the best approximation of the pattern natural for that species. Thus, a species with a very restricted range is normally considered to be "well distributed" for purposes of

the analysis if its current distribution approximates its known or inferred historic distribution.

The Final SEIS analysis indicates that for all vertebrates, except for a small area recently discovered to be within the range of the red tree vole and for which existing information is not adequate to make a projection, analysis displayed in the Final SEIS indicates Alternative 1 as modified by this Decision would provide habitat of sufficient quality, abundance, and distribution to allow species to stabilize in a pattern similar to their reference distribution. For the small area described as “uncertainty,” we note the three elements (manage known sites, pre-disturbance surveys, and strategic surveys) apply, and thus Survey and Manage is providing the maximum protection available within any of the alternatives. The uncertainty seems related only to limited information, and overall we find the red tree vole to be appropriately protected.

Based on the statute, regulation, case law, and examination of the record, we find that this Decision satisfies the requirements of the statute and its implementing regulations because it will provide an amount and distribution of habitat adequate to support the continued persistence of vertebrate species in the planning area. For all of the above reasons, we have determined that this Decision, as described by the attached Standards and Guidelines, fully meets our statutory and regulatory requirements regarding fish and wildlife resources. We also find, based on the Biological Evaluation and earlier findings to which this Decision tiers, that our adoption of these standards and guidelines will not jeopardize the continued existence of any species listed under the Endangered Species Act.

On November 9, 2000, the Forest Service published a revised set of National Forest Management Act planning regulations. In general, the revised regulations have placed requirements for species within the broader context of ecological sustainability in a newly formulated version of 36 C.F.R. Section 219.20. In particular, section 219.20(b)(2) of that regulation sets forth a standard for plan decisions with respect to species diversity. It is our intent to ensure, and we fully expect, that this Decision will be fully consistent with the standard for species diversity in the revised version of section 219.20(b)(2) once the revised regulations come into effect within the planning area. In making this statement, we are not implying that either the methodologies used to assess species persistence for this action or the substantive standards achieved by this Decision should be viewed as normative or establishing a minimal threshold or precedent that must be attained in other planning contexts. As with the previous regulation, the revised version likewise provides a great deal of flexibility and discretion to enable the Forest Service to exercise its professional expertise in a manner appropriate to the circumstances in satisfying the regulatory standard. Our objective in addressing this issue in the Record of Decision is to make clear our expectation that, on the basis of the present record in any event, minimal changes to this decision would be necessary to bring it into compliance with the revised

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NFMA planning regulations insofar as diversity of species associated with late-successional and old-growth forests is concerned.

Regional Guide and Forest Plan Amendments

Regional guide and forest plan amendments are used to keep the management direction for National Forests up to date. The amendment process includes programmatic compliance with NEPA and other environmental laws. If an amendment to a Forest Plan results in “a significant change in the plan,” the NFMA and its 1982 implementing regulations under which this Decision is made, require that the amendment process follow the procedures used in the initial development of the plan. If the proposed change in the plan is not significant, public notification and completion of the NEPA procedures are still required (16 USC 1604 (f)(4) and 36 CFR 219.10(f)), as was completed for this Decision.

“Significant” change in the plan is determined by different criteria than those used in evaluating significance in the NEPA process. For the NFMA requirement, the Forest Service Manual (FSM 1922.51 and .52) provides specific direction. As discussed in more detail in the Final SEIS, changes to the forest plan that are not significant can result from: (1) Actions that do not significantly alter the multiple-use goals and objectives for the long-term land and resource management; (2) adjustments of management area boundaries or management prescriptions resulting from further on-site analysis when the adjustments do not cause significant changes in the multiple-use goals and objectives for long-term land and resource management; (3) minor changes in standards and guidelines; and, (4) opportunities for additional management practices that will contribute to achievement of the management prescription. On the other hand, examples of changes that are indicative of circumstances that may cause a significant change to a forest plan include: (1) Changes that would significantly alter the long-term relationship between levels of multiple-use goods and services originally projected (36 CFR 219.10(e)); and, (2) changes that may have an important effect on the entire forest plan or affect land and resources throughout a large portion of the planning area during the planning period.

The changes resulting from this Decision are not significant because: the changes generally add details to actions already envisioned (but poorly described) in the Land and Resource Management Plans; they are specifically designed to more effectively achieve the intent of a mitigation measure and would not significantly change any key elements of the underlying strategy or standards and guidelines; they will help achieve (and not significantly alter) the relationship between the levels of multiple-use goods and services originally projected; and, the species intended to be protected by the Survey and Manage mitigation measure will continue to receive protection at levels intended in the Land and Resource Management Plans.

Some have opined that effects to PSQ are significant, particularly from the perspective of PSQ effects displayed in the 1994 Northwest Forest Plan Final SEIS. However: (1) the changes would substantially decrease reductions already being experienced from the existing standards and guidelines, reducing PSQ effects from 37 percent to 6 percent of of the currently approved PSQ; and, (2) the effects of Survey and Manage on PSQ were described in the 1994 Northwest Forest Plan Final SEIS as “adding uncertainty,” and no absolute effect was quantified. The Preferred Alternative would result in a 6 percent departure from levels currently identified, decidedly within the range of “adding uncertainty.” Because this is the first Final SEIS to display a combined PSQ for all the administrative units in the Northwest Forest Plan area since the 1994 Northwest Forest Plan Final SEIS, some respondents to the Draft SEIS attributed all of the difference between the 1994 PSQ of 958 MMBF (million board feet) (both BLM and Forest Service), and the Preferred Alternative’s PSQ of 760 MMBF, to Survey and Manage. This is incorrect; effects for Survey and Manage must be compared to the currently approved Northwest Forest Plan PSQ of 811 MMBF per year.

We conclude that the changes effected by this Decision are not significant in the context of the 1982 Forest Service Planning Regulations, and that the requirements for amending Forest Service Regional Guides and National Forest Land and Resource Management Plans have been met. Regarding the Regional Guides, we recognize the November 9, 2000, Forest Service planning regulations specify the Regional Guides will be withdrawn within a year. This withdrawal will have no effect on the application of these standards and guidelines because we are also amending the existing Land and Resource Management Plans of the affected administrative units.

Endangered Species Act (ESA)

Section 7(a)(2) of the Endangered Species Act (ESA) requires that Federal agencies consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service, as appropriate, to ensure that their actions do not jeopardize the continued existence of species listed as threatened or endangered under ESA, or destroy or adversely modify their critical habitat. A Biological Evaluation was completed by the Agencies and is included as Appendix G of the Final SEIS. This evaluation (and the biological assessment derived from it) concludes that all of the alternatives examined in detail in the Final SEIS, including the Preferred Alternative (Alternative 1), result in a determination of “may affect, not likely to adversely affect” for the California red-legged frog and the Canada lynx, and a determination of “no effect” for all other species listed or proposed for listing as threatened or endangered. The Agencies conducted informal consultation pursuant to Section 7 of ESA for the California red-legged frog and the Canada lynx. The U.S. Fish and Wildlife Service, on January 2, 2001, concurred with the Agencies’ determination that

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the Preferred Alternative, as described in the Final SEIS, may affect, but is not likely to adversely affect these species.

The additional mitigation for 10 mollusk species and other minor changes made by this Decision are not included in the description of the proposed action in the completed consultation. However, these changes have been reviewed for their potential effects to listed species. Based on this review, we have determined that there are no effects to species listed as threatened or endangered under ESA not previously considered in the biological assessment and informal consultation; there is no need to reinitiate consultation on this action based on these changes.

Section 7(a)(1) of ESA directs all federal agencies to use their existing authorities to conserve threatened and endangered species. While the standards and guidelines implemented through this Decision are not specifically directed to the management of habitat or populations of species listed under ESA, some of these species may incur indirect short-term conservation benefits as a result of management activities conducted under the authority of this Record of Decision.

Federal Land Policy and Management Act (FLPMA)

The land use planning directions are in 43 U.S.C. Sec. 1712, and are promulgated through regulations in 43 CFR Subpart 1610. The most pertinent section to the present Decision is the regulation 43 CFR 1610.5-3 concerning amendments to BLM Resource Management Plans (RMPs), which may be initiated by the need to consider new evaluation findings or new data, among other reasons. In the event a decision is made to prepare an environmental impact statement, which is the case here, the amending process follows the same procedure required for the preparation and approval of the resource management plans, but consideration shall be limited to only the portion of the plans being amended. With the exception of the administrative appeal provisions, these procedures have all been followed in preparing this Decision to amend the existing Resource Management Plans of the BLM. This decision is not subject to administrative appeal under BLM regulations because it is a Secretary's decision. The Final SEIS Governor's Consistency Review for Oregon and California (no Washington BLM lands are included in this decision) was initiated November 20, 2000.

The principles of multiple use and sustained yield have been applied in the development of this Decision. The opportunity for utilization of resources from the lands within species sites managed under the standards and guidelines of this Decision is in accordance with the principles of multiple use and sustained yield (see 43 U.S.C. 1712(c)(1)). The lands included in the known sites of species requiring the management of known sites are subject to management recommendations that "describe the habitat parameters (environmental

conditions) that will provide for a reasonable likelihood of persistence of the taxon at that site,” and therefore constrain, but do not necessarily exclude, timber use. Thinning or other silvicultural treatments that retain the appropriate habitat parameters remain permitted, and no change in land allocation is assumed. Further, such managed species sites can be considered transitional, and management direction changes when the sites become unoccupied, are no longer considered necessary for the persistence of the species, or when the species is removed from Survey and Manage. Because timber use is not totally eliminated, this management Decision will not be subject to the reporting requirement in 43 U.S.C. 1712(e)(2).

Oregon and California Lands Act (O&C Act)

Conformance with the O&C Act is discussed in the 1994 Record of Decision for the Northwest Forest Plan upon which these findings build. In addition to identification of the appropriateness of the system of reserves and other elements of the Northwest Forest Plan that, among other things, preclude the need for many species to be included in Survey and Manage, specific portions of the 1994 Record of Decision discussion that continue to apply to Survey and Manage species include:

“Section 5(a) of the [Endangered Species] Act also directs: ‘the Secretary.... shall establish and implement a program to conserve fish, wildlife, and plants, including [but not limited to] those which are listed as endangered species or threatened species pursuant to Section 4 of this Act.’ 16 U.S.C. 1534(a)” and,

“One of the purposes of the Endangered Species Act is the preservation of ecosystems upon which endangered and threatened species depend. A forward-looking land management policy would require that federal lands be managed in a way to minimize the need to list species under the ESA. Additional species listings could have the effect of further limiting the O&C Lands Act's goal of achieving and maintaining permanent forest production. This would contribute to the economic instability of local communities and industries, in contravention of a primary objective of Congress in enacting the O&C Lands Act. That Act does not limit the Secretary's ability to take steps now that would avoid future listings and additional disruptions.”

The Ninth Circuit Court found that the Northwest Forest Plan was consistent with the Oregon and California Lands Act. This Decision does not significantly alter that Plan. In fact, this Decision will make it possible to come closer to achieving the timber production envisioned in that Plan that would be without the change. Therefore, we find this Decision consistent with the Oregon and California Lands Act.

Protection of Tribal Treaty Rights and Trust Resources

This Decision will directly affect the Coquille Indian Tribe because the enabling legislation that created the Coquille Tribal Forest directed the lands to be managed in a manner consistent with the standards and guidelines of Federal forest plans on adjacent lands. The Coquille Indian Tribe currently manages approximately 5,400 acres of forest lands (Coquille Tribal Forest) under the same standards and guidelines as the Coos Bay District of the BLM, which is the adjacent Federal land management agency. This places them in a unique position as the only tribe in the Northwest Forest Plan area that must comply with the Survey and Manage Standards and Guidelines. The Coquille Indian Tribe, in a letter submitted to the SEIS Team during the public comment period for the Draft SEIS, recommended adopting Alternative 1.

This Decision could affect American Indian trust and treaty resources on public lands, but does not impair or restrict the treaties or rights of tribes. It is conceivable, however, that subsequent implementation of standards and guidelines could directly affect American Indian practices and activities -- for example, a prohibition against the collection of certain species included in Survey and Manage, or collection of plant material or trees in known sites of Survey and Manage species, that are subject to tribal treaty off-reservation rights. Under such circumstances, the exercise of these tribal treaty rights will not be restricted unless the Regional Ecosystem Office determines that the restriction is (1) reasonable and necessary for preservation of the species at issue, (2) the conservation purpose of the restriction cannot be achieved solely by regulation of non-Indian activities, (3) the restriction is the least restrictive alternative available to achieve the required conservation purpose, (4) the restriction does not discriminate against Indian activities either as stated or as applied, and (5) voluntary tribal conservation measures are not adequate to achieve the necessary conservation purpose.

Species included in Survey and Manage are relatively rare (at least based on current knowledge) or endemic, and in general, protections afforded by Survey and Manage should benefit potential users or collectors of those species in the long run by helping maintain their persistence. In any event, and as described in the 1994 Record of Decision for the Northwest Forest Plan, conflicts will be resolved collaboratively with affected tribes involved in the planning process, consistent with the Federal government's trust responsibilities. Included in this trust function are responsibilities with all federally recognized tribes to facilitate occupancy and use of federal lands and resources traditionally used for cultural and spiritual purposes consistent with existing laws and regulations.

Review by the Regional Interagency Executive Committee (RIEC)

The Northwest Forest Plan Record of Decision at page E-18 requires the preparation of amendments to the Northwest Forest Plan to be coordinated with, and reviewed by the RIEC. The purpose of the review is to “assure consistency with the objectives of these [Northwest Forest Plan] standards and guidelines.” The record shows the RIEC has been involved, and concurred with the Notice of Intent, the Preferred Alternative in both the Draft and Final SEIS, and some agencies also provided specific comments. On January 3, 2001, a subcommittee of Agency executives authorized by the RIEC reviewed the alternative, as modified and selected in this Record of Decision.

Valid Existing Rights

This Decision does not repeal valid existing rights on public lands. Valid existing rights are those rights or claims to rights that take precedence over the actions contained in this plan. Valid existing rights may be held by other Federal, State or local government agencies or by private individuals or companies. Valid existing rights may pertain to mining claims, mineral or energy easements, rights-of-way, reciprocal rights-of-way, leases, agreements, permits, and water rights.

7. Identification of the Environmentally Preferable Alternative

CEQ’s regulations require that the Record of Decision specify “the alternative or alternatives which were considered to be environmentally preferable” (40 CFR 1505.2(b)). CEQ’s “Forty Questions” document (46 Federal Register, 18026, March 23, 1981) clarifies that “The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in NEPA’s Section 101. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment; it also means the alternative that best protects, preserves, and enhances historic, cultural, and natural resources.”

Based on the analysis in the Final SEIS, Alternative 3 would allow for the smallest amount of directly human-induced effects on the physical environment. Alternative 3 would result in the largest area being managed as known sites for Survey and Manage species, and therefore would restrict activities on the largest area. It would exclude most management activities from approximately 50 percent of the late-successional forests currently available under the Northwest Forest Plan for regularly scheduled timber harvest (harvest as part of Probable Sale Quantity). Alternative 3 would preclude habitat-disturbing management activities for 250 meters around sites occupied by “rare” species, a minimum of 48.5 acres. It would also find the most species sites, by requiring “equivalent-effort” surveys for nearly

all species. Alternative 3 does have a down side of placing greater restrictions on certain restoration activities and certain prescribed fire when compared with other alternatives, which would have a long-term detrimental environmental effect. However, based on a balance of all of these factors, we conclude that Alternative 3 is the “environmentally preferable alternative.”

8. Administrative Review or Appeal

A decision by the Secretary of Agriculture is not subject to administrative appeal under the Forest Service regulations. A decision by the Secretary of the Interior is not subject to administrative appeal under BLM regulations. Therefore, this Decision is the final agency action for the amendment of these standards and guidelines into the applicable planning documents.

This Decision does not constitute the final agency action for any project or activity. Before a decision document for a project or activity, such as a timber sale or restoration project, is authorized, applicable procedures must be complied with, including applicable project-level NEPA analysis and administrative appeal procedures.

9. Authority to Amend or Modify this Decision

As with other parts of the Northwest Forest Plan, amendments of forest and district plans that would modify the standards and guidelines established by this Record of Decision will be coordinated through the Regional Interagency Executive Committee (RIEC) and the Regional Ecosystem Office (REO) as described in the original Northwest Forest Plan Record of Decision. In reiterating this direction, we note our expectation that the Agencies’ practice of making minimal modifications or conducting plan maintenance with inconsequential effects on the purposes and objectives of the Northwest Forest Plan will continue without the needs for such formal consultation, subject to refinement by the REO and RIEC in the future as appropriate.

10. Effective Date

This Decision shall take effect 30 days after the date of signature on this Record of Decision. Where standards and guidelines prescribe actions for species that are the same as actions prescribed for those species under the existing standards and guidelines (the No-Action Alternative), there will be no break or phase-in period between this action and the

past. Application of new standards and guidelines to new activities, as well as applicable “grace periods” for newly included species, are described in the standards and guidelines, Attachment 1, subject to the language in this Decision under “Application of this Decision to management activities in the planning phase...”

11. Contact Person

Interagency Survey and Manage Program Manager
c/o Regional Ecosystem Office
P.O. Box 3623
Portland OR 97208-3623

12. Signatures and Dates

By signing this Record of Decision together, we exercise our respective authorities over only those portions relevant to our authority.



Dan Glickman, Secretary
U.S. Department of Agriculture

Dated: JAN 12 2001



Bruce Babbitt, Secretary
U.S. Department of Interior

Dated: JAN 11 2001

Enclosure: Attachment 1, Standards and Guidelines

Standards and Guidelines

**for Survey and Manage,
Certain Cavity-Nesting Birds,
Canada Lynx,
and Some Bat Roosts**

and

**Management Recommendations
for Certain Cavity-Nesting Birds
and Some Bat Roosts**

STANDARDS AND GUIDELINES

for
Survey and Manage, Certain Cavity-Nesting Birds,
Canada Lynx and Some Bat Roosts

and
Management Recommendations
for Certain Cavity-Nesting Birds and Some Bat Roosts

January 2001

ATTACHMENT 1

to the Record of Decision
for Amendments to the Survey and Manage, Protection Buffer,
and Related Mitigation Measures Standards and Guidelines

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

Cooperating Agency: **Fish & Wildlife Service - U.S. Department of Interior**

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STANDARDS AND GUIDELINES
for
Survey and Manage, Certain Cavity-nesting Birds,
Canada Lynx, Some Bat Roosts
and Management Recommendations for
Certain Cavity-Nesting Birds and Some Bat Roosts

All sections of this document except the Management Recommendations for certain cavity nesting birds and some bat roosts, are the complete compilation of standards and guidelines.

I. Introduction

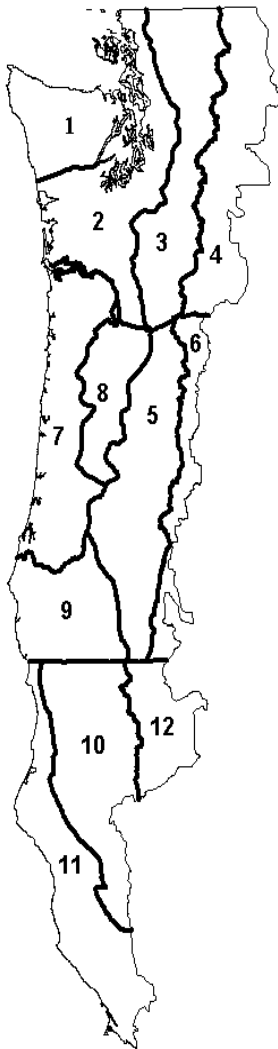
Existing Standards and Guidelines Are Amended

The standards and guidelines in the April 13, 1994 Northwest Forest Plan Record of Decision for Survey and Manage, Protection Buffers, Protect Sites From Grazing, Manage Recreation Areas to Minimize Disturbance to Species, and Provide Additional Protection for Caves, Mines, and Abandoned Wooden Bridges and Buildings That Are Used as Roost Sites for Bats (hereafter referred to as Survey and Manage and related mitigation measures) are removed in their entirety and replaced as described below. See Appendix B of the November 2000 *FSEIS for Amendment to the Survey and Manage, Protection Buffers, and other Mitigating Measures* for a complete display of the standards and guidelines to be removed. Except for certain cavity-nesting birds and Canada lynx described below, all former Protect Sites from Grazing species and Protection Buffer species are now either Survey and Manage species as described in the standards and guidelines below, or are removed from these standards and guidelines because they do not meet the Survey and Manage basic criteria. Known sites are managed as specified for the category to which they are placed, but the land allocations associated with Protection Buffer species sites (unmapped Late-Successional Reserves and Managed Late-Successional Areas) are returned to their underlying or appropriate surrounding allocation.

Other elements of the Northwest Forest Plan not specifically addressed, and implementation memos and other policy interpretations not affected by changes in these standards and guidelines, are not changed. Exceptions to certain standards and guidelines for research or the Adaptive Management Process described in Chapter E of the Northwest Forest Plan Standards and Guidelines, for example, continue to apply to Survey and Manage as under the Northwest Forest Plan Record of Decision.

Physiographic Provinces

The 1994 Northwest Forest Plan Standards and Guidelines includes two different province maps; physiographic provinces and planning provinces. The map of the 12 physiographic provinces appears on page A-3 of the Northwest Forest Plan Standards and Guidelines and is repeated here for reference (see Figure 1 - Physiographic Provinces). The physiographic provinces allow differentiation between areas of common biological and physical processes. Unless otherwise identified, references to “provinces” in these standards and guidelines are to physiographic provinces. The 12 physiographic provinces are:



- | | |
|-------------------------|-------------------------|
| 1. WA Olympic Peninsula | 7. OR Coast Range |
| 2. WA Western Lowlands | 8. OR Willamette Valley |
| 3. WA Western Cascades | 9. OR Klamath |
| 4. WA Eastern Cascades | 10. CA Klamath |
| 5. OR Western Cascades | 11. CA Coast Range |
| 6. OR Eastern Cascades | 12. CA Cascades |

Species Removed from Survey and Manage and other Standards and Guidelines

Species formerly included on Survey and Manage or related mitigation measures that are removed only because they are not closely associated with late-successional or old-growth forests (see Table 1-2) are already on, or are being considered for, the Agencies’ special status species programs. Known sites for these species will be managed until their disposition is clarified under the special status species programs or a decision is documented not to include them. For all other species removed from Survey and Manage or related mitigation measure, current “known sites” of these species are released for other resource activities.

Arthropod Guilds

For arthropods, references in these standards and guidelines to species or taxa apply only to these four functional groups, and no individual species will be added to Survey and Manage.

Land Allocations

These standards and guidelines apply to all land allocations.

Figure 1. Physiographic Provinces

II. Survey and Manage Basic Criteria

The Survey and Manage three basic criteria (see box) must be met for a species to be included in the Survey and Manage Standards and Guidelines. Species no longer meeting these criteria will be removed from Survey and Manage. The process for adding or removing a species is described in the Adaptive Management section. The following section describes “persistence” and the criteria used to determine when there is concern for persistence.

Species Persistence Objectives

For purposes of these standards and guidelines, species persistence objectives have been adapted from the Northwest Forest Plan ROD (page 44). In general, these objectives may be described as providing for roughly the same likelihood of persistence as that which was provided by the Northwest Forest Plan as originally adopted in the 1994 ROD.

More particularly, for vertebrate species, the Northwest Forest Plan specified use of the Forest Service viability provision in the National Forest System Land and Resource Management Planning Regulation for the National Forest Management Act of 1976, which reads in part as follows:

Three Basic Criteria for Survey and Manage

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 (see Exhibit A).
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.

“Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area.” (36 CFR 219.19.)

The 1994 ROD identified compliance with this Forest Service regulation as a goal across both Forest Service and BLM administered lands as a means of serving the important policy goal of protecting the long-term health and sustainability of all of the federal forests within the range of the northern spotted owl and the species that inhabit them (page 44). The Northwest Forest Plan ROD takes note of the fact that there is no specific or precise standard or technique for satisfying the viability provision (page 44), nor is there any requirement to conduct a viability analysis for each

Survey and Manage and other Mitigation Measures

species. Instead, common sense and agency expertise must be used in making determinations of compliance with the viability provision (Seattle Audubon Society v. Moseley (W.D. Wash. 1992)). For non-vertebrate species, the Northwest Forest Plan satisfied “a similar standard (to the one reflected in the NFMA viability provision for vertebrate species) . . . to the extent practicable” (page 44). These overall objectives are summarized simply as the “persistence objectives” for these standards and guidelines.

As part of the background to the Northwest Forest Plan, the FEMAT report provided assessment of the effects of various management options on species associated with late-successional and old-growth forests. This assessment was based on expert panel evaluation of the likelihood that each option presented in the FEMAT report would provide sufficient habitat on federally managed lands for various distribution patterns of species populations for 100 years. This assessment was documented in the Northwest Forest Plan Draft SEIS. Between the Draft SEIS and the Final SEIS for the Northwest Forest Plan, additional analysis was done for those species whose original outcomes were potentially inconsistent with the stated species persistence objectives. This additional analysis identified Survey and Manage as one mitigation measure that could improve the likelihood of meeting species persistence objectives, particularly for rare species and those about which little is known. Survey and Manage, along with other mitigation measures, was adopted in the ROD. These mitigation measures, along with the assessment of outcomes by panels of experts, were among the factors the signers of the ROD used to determine that species objectives, including those directed by the National Forest Management Act regulations, were met (see Northwest Forest Plan ROD, pages 43 to 47). This determination was upheld by the courts.

For the November 2000 Survey and Manage FSEIS, expert effects writers again used outcome statements as part of their assessment process. These outcome statements were modified from those used by FEMAT to better fit typical Survey and Manage species (rare or endemic species or species about which little is known).

Objectives for maintaining species persistence for these standards and guidelines are the same as those described in the Northwest Forest Plan ROD. The objectives recognize that there is uncertainty associated with the continued persistence of species. Even absent any human-induced effects, the likelihood that habitat will continue to support species’ persistence can vary among species. For example, the continued persistence of rare species, whose entire range may comprise only a few acres, is inherently at greater risk due to natural disturbance than species with larger ranges and more locations, when considered over the long term. Thus, the achievement of species persistence is not subject to precise numerical interpretation and cannot be fixed at any one single threshold (see Northwest Forest Plan ROD, page 44).

In general, these standards and guidelines are designed to help the Northwest Forest Plan provide for the persistence of late-successional and old-growth forest related species.

Concern for Persistence

One of the basic criteria for applying the Survey and Manage mitigation to a species is concern for persistence. A **concern for persistence** exists when the reserve system and other standards and guidelines of the Northwest Forest Plan do not appear to provide a reasonable assurance of species persistence. **Little or no concern for persistence** exists when the reserve system and other standards and guidelines of the Northwest Forest Plan (other than Survey and Manage) provide a reasonable assurance of persistence. When this assurance of species persistence exists, the species may be removed from Survey and Manage.

Criteria Indicating a Concern for Persistence: One or more of the following criteria, which are to be considered in the context of the reserve system and other standards and guidelines of the Northwest Forest Plan, may indicate a concern for species persistence. These criteria must be considered aside from the Survey and Manage provisions, and must apply within the Northwest Forest Plan area.

- Low-to-moderate number of likely extant known sites/records in all or part of a species range.
- Low-to-moderate number of individuals.
- Low-to-moderate number of individuals at most sites or in most populations.
- Very-limited to somewhat-limited range.
- Very-limited to somewhat-limited habitat.
- Distribution within habitat is spotty or unpredictable in at least part of its range.

Criteria Indicating Little or No Concern for Persistence: Usually, most of the following criteria need to be met to indicate that a concern for persistence does not exist. These criteria must apply within the Northwest Forest Plan area.

- Moderate-to-high number of likely extant sites/records.
- 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.
- Sites are relatively well distributed within the species range.
- Matrix Standards and Guidelines or other elements of the Northwest Forest Plan provide a reasonable assurance of species persistence.

Concern for persistence is based on existing knowledge and, therefore, may change over time. While concern will remain for some species that are truly rare, the concern for many species will be alleviated as more information is accumulated through pre-disturbance and strategic surveys, and considered with the criteria indicated above. A species for which there is no longer a concern for persistence will be removed from Survey and Manage as described in the adaptive management section.

Relative Rarity

The standards and guidelines subdivide species for which there is a concern for persistence by their relative rarity, as either “rare” or “uncommon.” The relative rarity subdivision is based on such factors as numbers of populations, distribution, commonality of habitat, population trends, numbers of individuals, and so forth. Placement of species in management categories depends largely on their relative rarity as described below. Management directions for “rare” and “uncommon” species are not the same, because relative rarity changes the level of concern and, therefore, the management needed to provide for a reasonable assurance of persistence. Like concern for persistence, this subdivision is based on current knowledge and is changeable.

A determination that a species is “rare” is based on a combination of information, as described in the criteria for each category. A species may be rare if it has: (1) limited distribution; (2) a low number of sites or individuals per site; (3) highly specialized habitat requirements; (4) declining habitat or population trends; (5) reproductive characteristics that limit population growth rates; (6) restricted distribution pattern relative to range or potential habitat; and/or, (7) narrow ecological amplitude.

A determination that a species is “uncommon” is based on information that indicates a species may have: (1) more widespread distribution; (2) higher number of sites; (3) low-to-high number of individuals per site; (4) more stable populations or habitats; (5) less restricted distribution pattern relative to range or potential habitat; and, (6) moderate-to-broad ecological amplitude (see criteria under each category, later in this chapter).

III. Survey and Manage Categories

Introduction

These standards and guidelines are designed to provide approximately the same level of species protection as intended in the Northwest Forest Plan. Survey and Manage species are grouped into six categories (A-F) as shown below. The six categories are based on level of relative rarity, ability to reasonably and consistently locate occupied sites during surveys prior to habitat-disturbing activities, and the level of information known about the species or group of species.

The six categories help delineate species objectives and apply specific management direction, compared to the previous four Northwest Forest Plan categories, partly because each species is assigned to only one category for all or part of its range. The standards and guidelines describe the objective, assignment criteria, and management direction for each category.

The species included in Survey and Manage, and the category to which each species, or portion of the range of each species, is assigned, is shown on Table 1-1, Species Included in Survey and

Redefine Categories Based on Species Characteristics			
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 - 222 species <ul style="list-style-type: none"> • Manage All Known Sites • N/A • 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 ¹ <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

¹ Includes three species for which pre-disturbance surveys are not necessary

Manage Standards and Guidelines and Category Assignment. The adaptive management section of these standards and guidelines define how to change species among the six categories and how to add or remove species from Survey and Manage, in response to new information.

These standards and guidelines apply within all land allocations; however, the Survey and Manage provision for each species will be directed to the range (or portion of range) of that species, to the particular habitats where concerns exist for its persistence, and to the management activities considered “habitat-disturbing” for that species. The Survey and Manage Standards and Guidelines will benefit species closely associated with late-successional and old-growth forests including certain amphibians, birds, mammals, bryophytes, mollusks, vascular plants, fungi, lichens, and arthropod groups. Information about these species, acquired through application of these standards and guidelines, should facilitate project planning and adaptive-management changes.

The following text describes the six categories. The category discussions include additional information that clarifies the linkage between objectives and management actions of each category and describes the criteria for assigning species to the various categories. A taxon, or range-defined portion of a taxon, can be assigned to only one category.

Category A (Rare, Pre-Disturbance Surveys Practical)

Objective: Manage all known sites and minimize inadvertent loss of undiscovered sites.

Criteria for assigning a species to Category A are:

- 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 one or more of the following:

Survey and Manage and other Mitigation Measures

- ▶ Low number of likely extant sites/records on federal lands indicates rarity.
- ▶ Species poorly distributed within its range or habitat.
- ▶ Limited number of individuals per site.
- ▶ Highly specialized habitat requirements (narrow ecological amplitude).
- ▶ Dispersal capability limited relative to federal habitat.
- ▶ Microsite habitat limited.
- ▶ Reproduction or survival not sufficient.
- ▶ Low number of sites in reserves or low likelihood of sites or habitat in reserves.
- ▶ Habitat fragmentation that causes genetic isolation.
- ▶ Factors beyond management under the Northwest Forest Plan affect persistence, but special management under the Northwest Forest Plan will help persistence.
- ▶ Declining habitat trend

and:

- Pre-disturbance surveys are practical.

Management Direction:

Manage All Known Sites: Current and future known sites will be managed according to the Management Recommendation for the species. Professional judgment, Appendix J2 in the Northwest Forest Plan Final SEIS, and appropriate literature will be used to guide individual site management for those species that do not have Management Recommendations. (See glossary for definition of “known site.”)

Professional judgment, coupled with locally specific information and advice from taxa specialists about the species, may be used to identify occasional sites not needed for persistence. These exceptions will be reviewed by the REO.

Surveys Prior to Habitat-Disturbing Activities: Surveys will be conducted at the project level prior to habitat-disturbing activities, and in accordance with Survey Protocols, to avoid loss of undiscovered sites by habitat-disturbing activities. Species sites found as a result of these surveys will be managed as known sites.

Strategic Surveys: . The objective of strategic surveys in this category is to search for additional sites and to characterize the habitat, improving the ability of the Agencies to know where to survey and how to manage the species. These surveys will build upon and incorporate information from previous and ongoing surveys. Species sites found as a result of these strategic surveys will be managed as known sites.

Strategic Surveys may address one or more of the following:

- Are known sites still extant?
- What is the habitat of the species?
- Identify high-probability habitat for surveys to find new sites.
- Where else does the species occur? Find new sites.

- Collect habitat information to assist with managing the species.
- What is the status of the population (such as number of individuals, size)?
- What is the distribution of the species relative to the land allocations established in the Northwest Forest Plan?

Category B (Rare, Pre-Disturbance Surveys Not Practical)

Objective: Manage all known sites and reduce the inadvertent loss of undiscovered sites.

Criteria for assigning a species to Category B:

- Same criteria as Category A, except that pre-disturbance surveys are not practical.

Management Direction:

Manage All Known Sites: Same as Category A.

Strategic Surveys: The objective of strategic surveys in this category is to find additional new sites and to characterize the habitat, improving the ability of the Agencies to know where to survey and how to manage and conserve the species. To reduce the inadvertent loss of undiscovered sites, the Agencies will not sign NEPA decisions or decision documents for habitat-disturbing activities in old-growth forest (a sub-set of late-successional forest - see glossary) in fiscal year 2006 (fiscal year 2011 for fungi) and beyond, unless either:

- strategic surveys have been completed for the province that encompasses the project area, or
- equivalent-effort surveys have been conducted in the old-growth habitat to be disturbed.

Strategic surveys build upon and incorporate information from previous and ongoing surveys. Species sites found as a result of strategic surveys will be managed as known sites. Strategic survey accomplishments, including completion by province, will be summarized in the annual report. “Old growth” is specified in this standard and guideline to assure retention of what is assumed to be the highest quality potential habitat for Survey and Manage species until strategic surveys are completed or equivalent-effort surveys are conducted. “Province” is specified as the geographic unit in which to assess completion of strategic surveys given that it represents the smallest, logical, well-defined area for which the results of strategic surveys likely could be compiled, analyzed, and presented with meaningful results.

Strategic Surveys may address one or more of the following:

- Are known sites still extant?
- What is the habitat of the species?
- Identify high-probability habitat for surveys to find new sites.

Survey and Manage and other Mitigation Measures

- Where else does the species occur? Survey high-probability habitat at highest risk to find new sites.
- What is the distribution of the species relative to the land allocations established in the Northwest Forest Plan?
- Collect habitat information to assist with managing the species.
- What is the status of the population (such as number of individuals, size)?

Category C (Uncommon, Pre-Disturbance Surveys Practical)

Objective: Identify and manage high-priority sites to provide for reasonable assurance of species persistence. Until high-priority sites can be determined, manage all known sites.

Criteria for assigning a species to Category C are:

- The species is uncommon, and not all known sites or population areas are likely to be necessary for reasonable assurance of persistence, as indicated by one or more of the following:
 - ▶ A higher number of likely extant sites/records does not indicate rarity of the species.
 - ▶ Low-to-high number of individuals per site.
 - ▶ Less restricted distribution pattern relative to range or potential habitat.
 - ▶ Moderate-to-broad ecological amplitude.
 - ▶ Moderate-to-high likelihood of sites in reserves.

and,

- Pre-disturbance surveys are practical.

Management Direction:

Manage High-Priority Sites: High-priority sites will be managed according to the Management Recommendation for the species. Professional judgment, Appendix J2 in the Northwest Forest Plan Final SEIS, and appropriate literature will be used to guide individual site management for those species that do not have Management Recommendations. Until a Management Recommendation is written addressing high-priority sites, either assume all sites are high priority, or local determination (and project NEPA documentation) of non-high priority sites may be made on a case-by-case basis with: (1) guidance from the Interagency Survey and Manage Program Manager; (2) local interagency concurrence (BLM, FS, USFWS); (3) documented consideration of the condition of the species on other administrative units as identified by the Program Manager - typically adjacent units as well as others in the species range within the province; and, (4) identification in ISMS. The Survey and Manage Program Manager will involve appropriate taxa specialists.

Professional judgment, coupled with locally specific information and advice from taxa specialists about the species, may be used to identify occasional high-priority sites not needed for persistence. These exceptions will be reviewed by the REO.

Surveys Prior to Habitat-Disturbing Activities: Surveys will be conducted at the project level prior to habitat-disturbing activities and in accordance with Survey Protocols. Sites found as a result of these surveys will be managed as described above under manage high-priority sites. Management Recommendations or Survey Protocols may specify habitats or conditions (e.g., seral stages) not needing surveys because “high-priority” sites are not expected to be found there.

Strategic Surveys: The objective of strategic surveys in this category is to gather information to either develop or revise Management Recommendations, which will include identifying high-priority sites for management and how to manage to provide for a reasonable assurance of species persistence. Strategic surveys build upon and incorporate information from previous and ongoing surveys. Sites found as a result of these surveys will be managed as described above under manage high-priority sites.

Strategic Surveys may address one or more of the following:

- What is the quality of the known sites (such as habitat characteristics, longevity and continuity of habitat, and the status and characteristics of the population)?
- What is the geographic distribution of sites and extent of the range of species within the area of the Northwest Forest Plan (such as distribution of sites in the Northwest Forest Plan reserve allocations and the connectivity of known sites, both spatially and temporally)?
- Where does the species occur? Find new high-priority sites.
- Obtain information on habitat requirements to help manage known sites (e.g., developing Management Recommendations and identifying high-priority sites).

Category D (Uncommon, Pre-Disturbance Surveys Not Practical or Not Necessary)

Objective: Identify and manage high-priority sites to provide for a reasonable assurance of species persistence. Until high-priority sites can be determined, manage all known sites.

Criteria for assigning a species to Category D:

- 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.

Some species for which pre-disturbance surveys are practical are placed in this category if there are a sufficient number of sites known to meet species objectives, and either Management Recommendations need to be written to define high-priority sites for management, or strategic surveys are needed to confirm distribution in reserves prior to future removal from Survey and Manage. These species are specifically identified on Table 1-1.

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Management Direction:

Manage High-Priority Sites: Same as Category C.

Strategic Surveys: The objective of strategic surveys in this category is to gather information to either develop or revise Management Recommendations, which will include identifying high-priority sites for management and how to manage to provide for a reasonable assurance of species persistence. Strategic surveys build upon and incorporate information from previous and ongoing surveys. Sites found as a result of these surveys will be managed as described above under manage high-priority sites.

Strategic Surveys may address one or more of the following:

- What is the quality of known sites (such as habitat characteristics, longevity and continuity of habitat, and status and characteristics of population)?
- What is the geographic distribution of sites and extent of the species range within the area of the Northwest Forest Plan (such as distribution of sites in the Northwest Forest Plan reserve allocations and the connectivity of known sites, both spatially and temporally)?
- Where does the species occur? Find new high-priority sites.
- Obtain information on habitat requirements to help manage known sites (such as developing Management Recommendations and identifying high-priority sites).

Category E (Rare, Status Undetermined)

Objective: Manage all known sites while determining if the species meets the basic criteria for Survey and Manage and, if so, to which category (A, B, C, or D) it should be assigned.

Criteria for assigning a species to Category E:

- The number of likely extant sites/records and survey information on federal lands indicates possible rarity of the species; and
- 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.

Management Direction:

Manage All Known Sites: Current and future known sites will be managed according to the Management Recommendation for the species. Professional judgment, Appendix J2 in the Northwest Forest Plan Final SEIS (USDA, USDI 1994a), and appropriate literature will be used to guide individual site management for those species that do not have Management Recommendations.

Professional judgment, coupled with locally specific information and advice from taxa specialists about the species, may be used to identify occasional sites not needed for persistence. These exceptions will be reviewed by the REO.

Strategic Surveys: The objective of strategic surveys in this category is to collect enough information to determine if the species meets the basic criteria for Survey and Manage, and to either place the species into the appropriate Survey and Manage category or remove the species from Survey and Manage.

Strategic surveys build upon and incorporate information from previous and ongoing surveys. Species sites found as a result of these surveys will be managed as known sites. In cases where the strategic survey indicates that there is still a concern for persistence, but the species is not closely associated with late-successional or old-growth forests, the species will be removed from Survey and Manage and considered for the Agencies' special status species programs.

Strategic Surveys may address one or more of the following:

- Is the species closely associated with late-successional and old-growth forests?
 - ▶ Revisit known sites, characterize the species habitat, and find new sites.
- Does the species occur within the Northwest Forest Plan area?
 - ▶ Survey potential habitat near known sites.
- What is the appropriate management for the species?
 - ▶ Does the species meet the basic criteria for Survey and Manage?
 - ▶ What is the appropriate Survey and Manage category?

Category F (Uncommon or Concern for Persistence Unknown, Status Undetermined)

Objective: Determine if the species meets the basic criteria for Survey and Manage and, if so, to which category (A, B, C, or D) it should be assigned.

Criteria for assigning a species to Category F:

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

Management Direction:

Manage known sites is NOT required for this category because species are uncommon, not rare, and species within this category will be assigned to other categories or removed from Survey and

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Manage as soon as new information indicates the correct placement. Until that time, inadvertent loss of some sites is not likely to change the level of rarity. Other management direction is yet to be determined.

Strategic Surveys: The objective of strategic surveys in this category is to collect enough information to determine if the species meets the basic criteria for Survey and Manage, and to either place the species into the appropriate Survey and Manage category or remove the species from Survey and Manage. These surveys will build upon and incorporate information from previous and ongoing surveys. In cases where the strategic survey indicates there is still a concern for persistence, but the species is not closely associated with late-successional or old-growth forests, the species will be removed from Survey and Manage and considered for the Agencies' special status species programs.

Strategic Surveys may address one or more of the following:

- Is the species closely associated with late-successional or old-growth forests?
- Does the species occur within the Northwest Forest Plan area?
- What is the appropriate management for the species?
 - ▶ Does the species meet the basic criteria for Survey and Manage?
 - ▶ What is the appropriate Survey and Manage category?
- What is the level of rarity?

IV. Adaptive Management Process

Introduction

The following adaptive management detail is designed to make the standards and guidelines more efficient for the Agencies to implement and more responsive to the needs of the species. The specific criteria for refining or changing species management are based on the strategies and objectives of the specific categories.

This process covers the acquisition, evaluation, and application of new information to move species between categories, remove species from Survey and Manage, add species to Survey and Manage, and develop or revise Management Recommendations, Survey Protocols, and the Strategic Survey Implementation Guide. The process described here will not change the number of categories, their definition or objectives, or the specific defining criteria or management direction applicable to the categories. Changes of that type would fall under the general adaptive management discussion in the Northwest Forest Plan Record of Decision, page E-12 through E-15.

The adaptive management process for Survey and Manage Standards and Guidelines includes three steps:

1. Acquiring new information relative to Survey and Manage species.
2. Evaluating new information.
3. Implementing changes or refinements to Survey and Manage.

These three steps are described individually below.

Acquiring New Information Relative to Survey and Manage Species

New knowledge may arise from various sources. New information concerning species status or needs, and efficiency of the standards and guidelines, will be generated mostly through strategic and pre-disturbance surveys and other implementation experience as done in the past. The Agencies will also use a data call, open conference, or other method of soliciting appropriate new information about Survey and Manage species to help locate new credible information needed for conduct of the Species Review Process. Sources of new information may also include taxa experts, resource specialists, scientists, data from Agency surveys, research, and members of academia and other publics. This information is maintained primarily in the Interagency Species Management System (ISMS) database. New information may lead to adding, removing, or changing species assignments to Survey and Manage categories, as described below, or lead to changes to Management Recommendations and Survey Protocols, and changes to information needs identified in the Strategic Survey Implementation Guide, as described below and elsewhere in these standards and guidelines.

Evaluating New Information for Adding, Removing, or Changing a Species In Survey and Manage

A regional-level interagency group including taxa experts (see Species Review Process in Exhibit B), meeting at least annually, will weigh new information against the criteria below to determine if additions or deletions of species from Survey and Manage or changes of species among categories, are warranted. Partial information or proposals to add or change species will not obligate the Agencies to gather additional information.

New information presented for evaluation in considering changes to Survey and Manage should address the criteria described below, as appropriate. The basic criteria for Survey and Manage are key to the evaluation process when proposing to add, remove, or change a category.

Criteria for Adding Species to Survey and Manage

Species proposed for addition to the Survey and Manage Standards and Guidelines must be taxonomic entities published in appropriate peer-reviewed journals accepted by the scientific

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community and, based on currently available information, must meet all three of the basic criteria for Survey and Manage.

The new information to support addition of a species to Survey and Manage must address the three basic criteria including the specific factors used as a basis for determining concern for persistence. The factors must apply to at least an identified portion of the species range, on federal lands, within the Northwest Forest Plan area.

Three Basic Criteria for Survey and Manage

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 (see Exhibit A).
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.

One or more of the following factors may indicate that persistence is a concern. These factors must be considered in the context of other standards and guidelines (other than those related to Survey and Manage) in the Northwest Forest Plan:

- Low-to-moderate number of likely extant known sites/records in all or part of species range.
- Low-to-moderate number of individuals.
- Low-to-moderate number of individuals at most sites or in most populations.
- Very-limited to somewhat-limited range.
- Very-limited to somewhat-limited habitat.
- The distribution of the species within habitat is spotty or unpredictable in at least part of its range.

Criteria for Removing Species from Survey and Manage

When new information indicates that a species no longer meets the Survey and Manage basic criteria, the species will be proposed for removal from the Survey and Manage Standards and Guidelines.

New information to support removing a species from the Survey and Manage Standards and Guidelines may address any one of the three Survey and Manage basic criteria. If a species is proposed for removal from the Survey and Manage Standards and Guidelines because there is not a concern for its persistence, the new information must address specific factors indicating that persistence is not a concern as listed below. The factors must apply to at least an identified portion of the species range, on federal lands, within the Northwest Forest Plan area.

Usually, most of the following factors must be true to indicate that persistence is not a concern:

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

Species removed from the Survey and Manage Standards and Guidelines because they are not closely associated with late-successional or old-growth forests, but are still of concern for persistence, will be considered for inclusion in the Agencies' special status species programs.

Criteria for Changing a Species from One Category to Another in Survey and Manage

New information to support changing a species from one Survey and Manage category to another must address the specific criteria for the categories involved in the change. The new information must support the proposed change by showing how the species better meets the criteria for the proposed category.

The criteria for assigning a species to a different category are included under the Description of Categories section earlier in these standards and guidelines.

Analysis Process for New Information

The process for analyzing or evaluating new information pertaining to species will involve a panel of agency taxonomic experts, resource specialists, and managers similar to the process used to evaluate new information in 1999 and 2000 (see Species Review Process in Exhibit B). The panel of experts will convene at least once a year to evaluate and respond to new accumulated information and to propose changes to appropriate management of species under the Survey and Manage Standards and Guidelines to the RIEC.

The panel will use the specific criteria and factors defined for making determinations regarding whether there is a concern for persistence and placement of species within individual categories of Survey and Manage. Because Survey and Manage includes species about which little is known, the number and combination of criteria and factors used in making a judgment about concern for persistence or appropriate placement of each species within individual categories will vary, depending on the species and the type and quality of information available. The application of the criteria in the analysis process necessarily relies on the professional judgments of the panel of experts.

For purposes of these evaluations, the factors and criteria listed in these standards and guidelines and applied to each species will constitute the foundation of the assumptions, criteria, factors, and

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logic to support the conclusions. Application of the information to the criteria will be documented in writing for the record. The recommendations from the panel will be disseminated to lead and cooperating agency tax experts in draft form for at least 30 days to identify errors, conflicting information, or other evidence that should be included with the information presented by the panel to the RIEC. Details of the Species Review Process will be available as administrative record for actions applying resultant changes in the future.

The Species Review Process proposed for future adaptive management changes under these standards and guidelines was developed and used in 1999 and again in 2000 for species analysis in the November 2000 Survey and Manage FSEIS (see Exhibit B).

Implementing Changes or Refinements to Survey and Manage

Making Changes to Management Recommendations, Survey Protocols, and the Strategic Survey Implementation Guide

Changes proposed to Management Recommendations, Survey Protocols, and the Strategic Survey Implementation Guide as a result of new information pertaining to species, or new information resulting from application experience, will be made using the same process used to develop the original Recommendations and Protocols. Changes to Management Recommendations, Survey Protocols, and the Strategic Survey Implementation Guide constitute administrative changes to the technical details of specific site management and surveys, and it is not anticipated such changes will require any further NEPA documentation.

Adding, Removing, and Changing Species Between Categories

The criteria and evaluation process for species that is presented in Exhibit B, and otherwise described in these standards and guidelines for use in future adaptive management changes, is designed to continue approximately the same level of assurance of persistence as intended by these standards and guidelines. The process and results should be relatively consistent over time because the assumptions, criteria, and logic used in reaching determinations relating to species disposition under the Survey and Manage Standards and Guidelines will remain constant. Proposed changes to assignments of species to categories and proposals to remove species from Survey and Manage, resulting from the periodic evaluations of new information, will be forwarded to the RIEC for review to ensure that current information about the species has been appropriately considered and weighed against the stated criteria, and that the resultant proposal continues to provide at least the level of protection intended by the standards and guidelines. Adaptive management changes to assignments of species will be jointly adopted by the BLM and Forest Service and included in the annual report, along with a summary of the information supporting the changes. Since the effects to species are expected to be consistent with the effects anticipated and described in the November 2000 Survey and Manage FSEIS, it is not anticipated such changes will require regular, annual NEPA documentation. The parameters for making adaptive changes are part of the standards and guidelines, and as long as the changes are within these parameters, they would not constitute a

change in these standards and guidelines or constitute new information on effects not already anticipated and addressed in the above FSEIS. Prior to the annual application of results, the Agencies will examine whether the magnitude and nature of changes indicate a need for additional environmental analysis (e.g., an Environmental Assessment). The results of this examination will be documented and summarized in the Annual Status Report. It is not anticipated that changes made pursuant to the species review process will require regular, annual NEPA documentation for three major reasons. First, the parameters for making such changes are clearly delineated and part of these standards and guidelines. Second, adjustments made pursuant to the annual species review process are fully expected to occur and are included in the set of assumptions on which the effects analyses of the November 2000 Survey and Manage Final SEIS have been made. Third, the status of species relative to the standards and guidelines should remain consistent with, and at least as secure as, that reflected in the Final SEIS, given that the criteria guiding the species review process have been designed in large measure to achieve such consistency. The Agencies will evaluate such changes over time to ensure their application is having the intended result and their accumulated effects are within the scope anticipated by this SEIS. At some point in the future, if such effects rise to the level exceeding that scope, supplemental NEPA analyses can be expected to be conducted at appropriate intervals as necessary or advisable.

The Agencies will involve the public and keep resultant changes and their application visible to the public so potential concerns about application of the above criteria to any particular species or area may be surfaced. First, the Agencies will utilize a data call, open conference, or other method of soliciting appropriate new information about Survey and Manage species. Second, the annual report will be sent to individuals or groups who request it. Individuals and groups that would like to receive the annual report should write to the Interagency Survey and Manage Program Manager, c/o Regional Ecosystem Office, P.O. Box 3623, Portland, OR 97208-3623. Public comments about species changes or anything else in the annual report are invited at any time, and should also be addressed to the Program Manager. Third, future Agency NEPA documents for habitat-disturbing activities will identify if any of these expected future changes in categories will be applied to the planned activity, or will reference a specific years assignments, as documented in the Annual Status Report, that appropriately applies to that activity or project. Specific public concerns about the application of a particular species assignment may be directed toward the activity applying the new assignment.

V. Management Recommendations

Management Recommendations are documents that address how to manage known sites (or manage high-priority sites) and that provide guidance to Agency efforts in conserving Survey and Manage species. They are written for the species range or, in rare cases, may apply to provinces within the range. They are the responsibility of management working closely with taxa experts; they are developed by taxa experts and land managers (at any administrative level) for use at field offices of the BLM and Forest Service. Because these documents describe site management, and for uncommon species, identify sites not needed to provide a reasonable assurance of persistence,

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they are subject to review by the REO. This review is to ensure they identify and integrate the habitat or life-history factors key to managing the species to the level of protection intended in the standards and guidelines.

Management Recommendations describe the habitat parameters (environmental conditions) that will provide for a reasonable likelihood of persistence of the taxon at that site. These parameters serve as the basis for site-specific decisions about the size of buffers to be applied and what management activities are appropriate within the site. The size of the area to be managed depends on the habitat and requirements for the species. Management may range from maintaining one or more habitat components (such as down logs or canopy cover) to complete exclusion from disturbance for many acres, and may allow loss of some individuals, areas, or elements not affecting continued site occupancy. In high fire frequency areas such as east of the Cascades or in the Klamath Provinces, specific consideration should be given to the acceptability of the use of prescribed fire in known sites to reduce the risk of future large-scale or high intensity fire, even if it entails some risk to individual site occupancy.

Management Recommendations for uncommon species should also identify high-priority sites that must be managed to provide for a reasonable assurance of persistence of the taxon (or the procedures for designating such sites locally), as well as sites that no longer need to be managed for the benefit of those species. Management Recommendations may also identify areas where it is no longer necessary to continue surveys prior to habitat-disturbing activities or strategic surveys for the taxon. The Management Recommendation may also provide information on natural history, current species status, species distribution, management goals and objectives, specific management actions or recommendations, monitoring needs, and needs for information and research to the extent such information supports management of known sites, identification of high-priority sites, and identification of survey priorities. Finally, where information about a species indicates the combination of manage known sites, pre-disturbance surveys, and strategic surveys (and other standards and guidelines of the Northwest Forest Plan) does not provide a reasonable assurance of persistence or does not provide the most efficient way of meeting the persistence objective, Management Recommendations may include additional or in-lieu direction, subject to appropriate NEPA analysis. Such direction may rely on habitat models and other valid scientific analyses that indicate a high probability of occupancy by the species.

Management Recommendations written prior to the Record of Decision for this SEIS may continue to be used until superseded by later versions. Existing Management Recommendations will be revised as new information indicates a need. Revised versions may be applied immediately but will normally be applied to NEPA decisions or decision documents signed 90 or more days after release of the Management Recommendation. In some cases they may include a specific effective date or other language indicating when they are to be applied, depending on when they are issued, what differences there are from the previous version, and the importance of those differences.

For species newly assigned to categories requiring management of known sites, either as a result of the Record of Decision amending Survey and Manage, or the annual species review process, manage

known site direction applies to NEPA decisions or decision documents (for habitat-disturbing activities) signed after the effective date of the new assignment.

Note for Species for Which Grazing is Identified as a Concern: The 1994 Northwest Forest Plan ROD identified a concern for grazing impacts to some of the species now included in Survey and Manage. For these species, the 1994 Northwest Forest Plan language of “known and newly discovered sites of these species will be protected from grazing by all practical steps to ensure that the local population of the species will not be impacted” is to be included in Management Recommendations for these species. For the three species for which the Northwest Forest Plan indicated grazing was the ONLY concern (identified on Table 1-1), this phrase is the complete Management Recommendation and no other recommendations are imposed at this time.

Note for Former Protection Buffer Species Included in Survey and Manage but Without Approved Management Recommendations: Management of known sites will follow the Northwest Forest Plan Protection Buffer direction (see Section XI of these standards and guidelines), latest information (including that displayed in the November 2000 Survey and Manage FSEIS), and best professional judgement until a Management Recommendation is approved. This affects great gray owl, the fungus *sarcosoma mexicana*, and Del Norte, Siskiyou Mountains, Larch Mountain, and Shasta salamanders.

VI. Surveys

Surveys Prior to Habitat-Disturbing Activities (Pre-Disturbance Surveys)

Some categories of species require that site-specific, pre-disturbance surveys be conducted prior to signing NEPA decisions or decision documents for habitat-disturbing activities. These are “clearance” surveys that focus on the project unit with the objective of reducing the inadvertent loss of undiscovered sites by searching specified potential habitats prior to making decisions about habitat-disturbing activities. They are done according to the Survey Protocol for each species and can use methods such as transects or plots that focus on priority habitats, habitat features, or involve the entire project area. These surveys are often referred to simply as pre-disturbance surveys. There are two types of pre-disturbance surveys. Pre-disturbance surveys are “practical” for species whose physiological characteristics make them likely to be located with reasonable effort. The second type, “equivalent-effort” surveys, are prescribed as mitigation for eight (8) mollusk species whose characteristics, such as extremely small size or irregular cycles when identifying characteristics are visible, make identification during pre-disturbance surveys less likely. The differences between these two types of pre-disturbance surveys, as well as the definition of habitat-disturbing activities, timing requirements for surveys, and the requirements for survey protocols are described in more detail below.

Habitat-Disturbing Activities

Habitat-disturbing activities are defined as those disturbances likely to have a significant negative impact on the species' habitat, its life cycle, microclimate, or life support requirements. The evaluation of the scale, scope, and intensity of the anticipated negative impact of the project on habitat or life requirements should include an assessment of the type, timing, and intensity of the disturbing activity. "Habitat-disturbing" is not necessarily the same as "ground-disturbing"; helicopter logging or logging over snow-pack, for example, may not disturb the ground but might clearly affect microclimate or life cycle habitat factors. Conversely, an activity having soil-disturbing effects might not have a large enough scope to trigger a need to survey. Such a case would be the installation of a sign post within a campground. Routine maintenance of improvements and existing structures is not considered a habitat-disturbing activity. Examples of routine maintenance include pulling ditches, clearing encroaching vegetation, managing existing seed orchards, and falling hazard trees.

The line officer should seek specialists' recommendations to help determine the need for a survey based on site-specific information. In making such determination, the line officer should consider the probability of the species being present on the project site, as well as the probability that the project would cause a significant negative effect on the species habitat or the persistence of the species at the site.

Pre-disturbance surveys are not required in the unusual circumstance such that a delay in implementation of the activity (to permit pre-disturbance surveys) would result in greatly increased and unacceptable environmental risk. Such circumstances are subject to review by the REO to ensure the urgency of the activity justifies the risk to species.

Pre-disturbance surveys are not required for wildland fires for resource benefits in designated Wilderness. Wildland fires for resource benefits are prescribed fires that result from natural ignition, are consistent with the applicable land and resource management plan, are addressed in a fire management plan, and are burning within prescription. Even though prescriptions are written well in advance of the burn, pre-disturbance surveys are not required because they would be impractical given the large area covered by prescriptions and the irregular nature of natural ignitions, and because potential impacts to Survey and Manage species are limited because the objective of such fires is limited to mimicking natural processes and succession (1964 Wilderness Act, Section 2(a)) (FSM 2323.32). Exceptions to the pre-disturbance survey requirement may be proposed, subject to REO review, for other wildland fires for resource benefits in backcountry, Wilderness Study Areas, roaded natural, and similar areas where the objective of such fires is similar to those in Wilderness.

Exceptions to the pre-disturbance survey requirement may also be proposed for wildland fire for resource benefits in Late-Successional Reserves if the Late-Successional Reserve Assessment addresses the potential presence and likely effect on Survey and Manage species, and REO review of that aspect of the Assessment concludes such fire(s) will not prevent achievement of the persistence objectives of these standards and guidelines.

Pre-Disturbance Survey Protocols

Survey Protocols for surveys prior to habitat-disturbing activities include instructions for locating the species. The instructions include such information as: likely habitat where the species is of concern, geographical area and substrate where the species is typically located, and timing of surveys to best locate the species, as well as appropriate search and sampling techniques, and detailed guidance for identifying the species. Supplemental information may include field identification guides and techniques for simple laboratory examination.

Pre-Disturbance Survey Protocols should also identify habitat conditions or locations, or criteria for identifying such conditions locally, where surveys are not needed for a reasonable assurance of persistence, and thus surveys are not needed. Such habitat may include, but not be limited to, seral stages, stand age, stand complexity, or stand origin, where occupied sites, if present, are likely incidental, non-viable, or otherwise not important for meeting overall species persistence objectives. For “uncommon” species, Survey Protocols should specify habitats or conditions (e.g., seral stages) not needing surveys because “high-priority” sites are not expected to be found there.

Existing Survey Protocols will be revised as new information indicates a need. Revised versions of protocols will normally apply to the next projects on which surveys are to be initiated. In some cases they may include a specific effective date, or other language indicating when they are to be applied, depending on when they are issued, what differences there are from the previous version, and the importance of those differences. The Record of Decision for November 2000 Survey and Manage SEIS does not invalidate existing Survey Protocols or previous surveys, and the Agencies may continue to use existing Survey Protocols in conducting pre-disturbance surveys until they are revised. Where these standards and guidelines require pre-disturbance surveys for species that required pre-disturbance surveys under the 1994 Northwest Forest Plan Standards and Guidelines (including mollusks requiring equivalent-effort surveys as mitigation), the requirement for pre-disturbance surveys continues to apply to all new activities with no break or grace period.

New Pre-Disturbance Survey Protocols will be prepared for species newly assigned to a category requiring surveys prior to habitat-disturbing activities, whether the category assignment is through these standards and guidelines, or a future assignment through the adaptive management process. The protocols will be prepared by the end of the fiscal year following the fiscal year the species was assigned. The decision date for activities to which these protocols apply will depend on the number of years a survey is required. If a protocol requires 1 year of surveys, activities may proceed for 1 additional fiscal year before pre-disturbance surveys are required, to allow time to conduct the required surveys. If a protocol requires two (2) years of surveys, activities may proceed for two (2) additional fiscal years before pre-disturbance surveys are required. For example, if a species is added to this category on January 1, 2001, the protocol will be prepared no later than September 30, 2002, and (assuming a 1-year protocol) the protocol will apply to activities for which NEPA decisions or decision documents are signed after September 30, 2003. Preparation of a protocol earlier than the due date does not necessarily change the required effective date; the Agencies may need the additional lead time for training, surveys, and related

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project planning. Actual effective dates will be set in the Survey Protocol documents or the Agencies' transmittal memos, but they will not be later than the above-described date.

Strategic surveys or other information may, in the future, expand the known range of a species requiring pre-disturbance surveys into areas not previously identified in Survey Protocols or ISMS-related species range maps. Confirmation of such expansions will occur with RIEC approval of the results of the annual species review process. Since protocols in these cases are already prepared, the survey requirement applies to activities whose NEPA decision or decision document is signed in the calendar quarter following the first full survey season (as defined in the protocol) after the expanded range is confirmed.

Timing Requirements for Pre-Disturbance Surveys

The intent of “surveys prior to habitat-disturbing activities” is to gather relevant information during the NEPA process so that it is available for the decision-maker before actions are taken. Ideally, this information would be available to the Interdisciplinary Teams during preparation of an EA or Draft EIS so it could be used in project analysis, formulation of alternatives, and evaluation of effects. Required surveys should be completed and their results included in an EA or Draft EIS whenever practicable. This would have the added advantage that results would be available during the public review and comment process.

Project schedules could be severely disrupted if the requirement for additional pre-disturbance surveys were imposed after the decision is made and final design, field layout, or contract preparation has begun. Therefore, the date of the decision is the cut-off date for the requirement to conduct “surveys prior to habitat-disturbing activities.” In other words, once the decision is made no additional survey requirements are imposed; no NEPA analysis will have to be re-done and no decisions will have to be re-made because of additional survey requirements.

The date of the decision is the signing of the Decision Notice (for the BLM) or NEPA Decision (for the Forest Service). Grace periods for newly added species or increases in known range are described under Pre-Disturbance Survey Protocols above.

Application of Manage Known Sites Direction: Even though pre-disturbance surveys are completed prior to the NEPA decision or decision document, manage known site direction will typically be applied to additional sites of rare species incidentally discovered during other field work after the decision date but prior to sale dates (or for non-contract activities, actual on-the-ground application of work). Manage known site direction may also be applied to additional sites for uncommon species, depending upon factors such as the level of concern for persistence of the species and its habitat in and adjacent to the activity area.

Practical Pre-Disturbance Surveys

Identification of species for which surveys are practical is basic to helping define the categories of Survey and Manage. If pre-disturbance surveys are practical, the risk of inadvertent loss of

undiscovered sites and the likelihood that management activities will be detrimental to meeting species persistence objectives can both be substantially reduced. Conducting practical pre-disturbance surveys also reduces the urgency to locate sites through the use of strategic surveys, at least as compared to species for which pre-disturbance surveys are not practical.

The criteria below define when pre-disturbance surveys are practical or not practical. In general terms, the criteria are designed so that surveys will be found to be practical if a reasonable effort would be likely to determine the presence of a species on a specific area, although the criteria themselves should be used in making the determination, and no quantitative standard is implied. Put another way, practicality of surveys generally relates to the ability to confidently answer questions about species presence through surveys, while avoiding unreasonable costs or spending unreasonable amounts of time. The definition of practical is intended to be comparable to that described in the Northwest Forest Plan Record of Decision as being not “difficult” (see Appendix J2 of the Northwest Forest Plan FSEIS, and pages C-5 and C-6 in the Northwest Forest Plan Record of Decision). However, it is not anticipated that these surveys will find every site.

Surveys prior to initiation of habitat disturbance are considered “practical” if all of the following criteria apply. Surveys prior to habitat-disturbing activities are considered not practical if any of these factors do not apply.

- 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 completed 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).

Equivalent-Effort Pre-Disturbance Surveys

Equivalent-effort surveys are an option for Category B species in old-growth, if strategic surveys are not completed within five (5) years (see strategic survey direction under Category B). The Survey and Manage Record of Decision also specifies “equivalent-effort” surveys as mitigation for eight species of mollusks whose characteristics make detection during such surveys less likely and, therefore, do not qualify as practical. Equivalent-effort surveys are pre-disturbance surveys conducted similarly to practical surveys (to the same intensity and effort--usually one field season and no more than two), according to written Survey Protocols, and during the times when the likelihood of detecting the species is highest. Because species characteristics make detection less

likely, however, equivalent-effort surveys are only designed to locate the species if it occurs in an identifiable condition during a reasonable survey time period (no more than two field seasons). The survey is an “equivalent effort” to practical surveys, with protocol adjusted to deal with the one or more of the factors described above that make determining presence of the species unlikely.

There are only two differences between equivalent-effort surveys and practical surveys. One difference is that equivalent-effort surveys may need to accommodate one or more of the practicality factors listed above. The other difference is that equivalent-effort surveys are not expected to meet the description of “likely to determine the presence” of a species because the characteristics of these species make finding sites less certain.

Strategic Surveys

Introduction

Strategic surveys gather information at the landscape, population, or site-specific scale to address questions that relate to identified objectives for each category and address the need to manage for a reasonable assurance of species persistence. Information provided by strategic surveys (as well as research and other information-gathering efforts) will help address fundamental questions of Survey and Manage species, including: is there a concern for persistence; is the species rare or uncommon; is the species closely associated with late-successional forests; what is the appropriate management for the species; and, do the reserve land allocations and other standards and guidelines of the Northwest Forest Plan provide a reasonable assurance of species persistence? Strategic surveys can also help refine habitat descriptions and define geographic range and information needs for future surveys, and could also provide important information on population status, life history, and habitat use. All of these questions are to be set in the context of the objectives of the Northwest Forest Plan, of which the Survey and Manage mitigation measure is but a part. Strategic surveys are prescribed for all categories.

Information from strategic surveys feeds into the adaptive management process described later in these standards and guidelines, provides information for the development of Management Recommendations and pre-disturbance Survey Protocols, and provides information to better focus subsequent strategic surveys if needed. Strategic surveys provide information required in order to change species categories or remove them from Survey and Manage. These surveys also provide information to help establish or confirm direction for managing known sites, identifying high-priority sites, and conducting pre-disturbance surveys. Finally, for species with very few sites, strategic surveys may be the primary method for finding additional sites. Strategic surveys are different from “pre-disturbance surveys” (described earlier in these standards and guidelines) because they are focused on gathering information about the species and its habitat needs range-wide, and are not focused on determining presence or absence in specific areas prior to habitat-disturbing activities.

Various scales of strategic surveys are described below. The appropriate scales to be used, and the type of information to be gathered, are determined by the needs of each species and the needs or objectives suggested by the category to which they are assigned. However, strategic surveys are envisioned as “samples” with sampling intensity dependent upon information needs and the characteristics of the species and the habitat. The information to determine range, habitat associations, distribution, ability to survey for, and meet other strategic survey objectives is expected to come from a series of samples distributed on the landscape. Once surveys have reasonably established those parameters, or further surveys are not expected to contribute significant additional information toward those objectives, strategic surveys may be considered completed. For some very rare species, this means strategic surveys may be complete even if few or no additional sites are found. The long-term benefit to Survey and Manage species comes from continuing to apply other Survey and Manage Standards and Guidelines over time, not continuing to do strategic surveys indefinitely.

Identifying Information Needs and Priorities

The first step toward identifying strategic survey needs is the identification of the persistence and management questions for each species. Three primary questions guide this process:

1. What are the primary concerns for species persistence?
2. How do we manage species and habitats to ensure species persistence?
3. Does the species need the Survey and Manage Standards and Guidelines to provide a reasonable assurance of persistence?

For planning purposes, information needs can be: (1) divided into species range and habitat associations; (2) to improve and direct species and habitat management; or, (3) directly relevant for dealing with specific persistence concerns. Information needs are compared with existing information (e.g., in ISMS and published literature) to determine current state of knowledge and to identify information gaps. These information gaps are considered in the context of existing management direction (e.g., what is the level of concern for persistence under other elements of the Northwest Forest Plan and within the present Survey and Manage category), to set the biological priorities for strategic surveys. Priorities are also determined by how the information may be used to increase management efficiency. If answers to these questions may lead to species changing categories or being removed from Survey and Manage, there is a benefit in reduced activity costs and reduced impacts to other forest management activities. Both the biological priorities and the management efficiency benefits must be described or quantified for display in the Strategic Survey Implementation Guide (see below) for use by management for setting survey priorities.

Strategic Survey Methods and Scales

Strategic Surveys may be accomplished through various methods, such as acquiring information from field surveys, herbaria, museums, literature, field units and other sources, and using various analytical tools such as building and validating habitat models. These methods are explored, developed, and analyzed for effectiveness and efficiency for acquiring the needed information.

Survey and Manage and other Mitigation Measures

The selection of one or more of these methods depends, at least in part, on the scale that will best address the information need. The different approaches to strategic surveys will consider the contributions of various scales of surveys generally characterized as:

Broad-scale surveys designed to:

- Include multiple species.
- Provide information on species occurrence, distribution, range, and habitat associations.
- Address different Survey and Manage questions by stratifying the survey area into significant ecological or geographical units such as forest age class (e.g., young stand vs. old-growth) or land allocations (e.g., Late-Successional Reserves vs. Matrix lands).
- Refine habitat characterization.

Mid- to fine-scale surveys designed to:

- Refine habitat characterization.
- Provide information on how to manage species or their habitat, particularly at known sites.
- Provide information for the identification of high-priority sites for management.

Detailed studies (linked to research as appropriate) and other surveys designed to:

- Address specific questions and information needs (e.g., determining whether a species is still extant at a specific location, or conducting studies to examine specific disturbance effects on persistence of individuals at a site).

Species or surveys may be grouped for cost efficiency. Preliminary identification of available resources, including the administrative levels that will participate, is also a consideration.

Strategic Survey Implementation Guide

A Strategic Survey Implementation Guide displaying the known strategic survey needs for all species or species groups will be developed at the range-wide or regional scale, and generally be updated annually to reflect changes in information and priorities resulting from the previous years accomplishments or new information. The Strategic Survey Implementation Guide is, of necessity, dynamic, particularly during the first years while information needs are clarified. Additionally, changes to categories or other new information will lead to new questions. The plan, with annual updates, will help ensure deadlines listed in these standards and guidelines are met and identify the magnitude and likely duration of the strategic survey program (at least for currently known information needs) for planning and scheduling purposes. The document will help focus annual work planning on the priority information needs, provide information for long-range planning, and facilitate the grouping of surveys for efficiency. The Strategic Survey Implementation Guide is subject to review by the RIEC to ensure identified information needs and priorities will further the objectives of the Northwest Forest Plan.

The Implementation Guide will include, by species or taxa group:

- A summary of the information needs proposed to be answered by the strategic survey.
- The benefits expected by answering each identified need, either in terms of increased assurance of species persistence or reduced costs or impacts.
- Identification of methods (and scale) that would best meet the information needs.
- Relative priorities or priority-setting criteria. Management will set relative priorities or describe priority-setting criteria using the other three elements (and within expected resource availability).

Implementation and Responsibility

Responsibility for the design and coordination of strategic surveys rests with the regional offices of the Forest Service and state offices of the BLM, in collaboration with the U.S. Fish and Wildlife Service and Research Agencies, to ensure consistency, and because strategic surveys are generally intended to address information across a species range within the Northwest Forest Plan area.

Coordination with both research agencies and field units regarding new information, assistance for design and conduct of surveys, identification of management needs, and availability of needed resources is important as well. Survey design should build upon or complement previous strategic, extensive, or general regional surveys whether conducted at the regional or local scale.

Responsibility for implementation and follow-up actions may be delegated to administrative units or groups of administrative units, particularly where the range of a species is essentially confined to those units or the units are in a better position to assemble appropriate resources.

Implementation includes all aspects of the planning and conduct of surveys, research, or other information-gathering activities. This may include hiring of personnel, mobilizing crews, contracting, selecting survey sites, scheduling site visits, developing protocols, etc.

Information from strategic surveys (and other sources) is maintained primarily in the Interagency Species Management System (ISMS) database and on species distribution maps.

Analysis and Use of Results

Information from strategic surveys is used in the Species Review Process (see Exhibit B and the Adaptive Management sections of these standards and guidelines), is incorporated into Management Recommendations and pre-disturbance Survey Protocols, and becomes part of the “existing information” used in the future identification of information needs and priorities described above. All three of these uses may lead, directly or indirectly, to the need for additional information. Information from completed surveys, and the identification of new survey needs, will be incorporated into the Strategic Survey Implementation Guide as appropriate.

Specific objectives of strategic surveys vary by category, species, and management need. Strategic surveys for a species are considered to be complete when any one of the following four conditions apply, and the resultant information has been compiled and analyzed, as appropriate, and presented in the appropriate form for use by the target audience. This form may range from inputting the data

Survey and Manage and other Mitigation Measures

into ISMS for use during the Species Review Process to preparing a summary of the data and related Management Recommendations to assist project planners. The four conditions are:

1. The objectives of the strategic surveys (such as specific information needs) have been accomplished and information is sufficient to conclude that existing or resultant management direction will provide a reasonable assurance of persistence.
2. The objectives of the strategic surveys (such as specific information needs) have been accomplished and further surveys are not likely to contribute additional significant information about distribution, relative rarity, range, habitat associations, how to conduct pre-disturbance surveys, or other strategic survey objectives.
3. Adequate sites or habitats for the species have been located and are appropriately managed to provide reasonable assurance of persistence for the species.
4. For species with very limited habitat, all known potential habitat of the species has been surveyed, and there is little likelihood that additional undiscovered sites of the species will be located by further surveying.

Strategic survey accomplishments will be summarized in the Survey and Manage Annual Report.

VII. Reports, Monitoring, and Review

Annual Status Reports

An interagency, Northwest Forest Plan area-wide annual status report (the annual report), will be prepared to display progress and identify products resulting from implementation of these standards and guidelines. The report will include, at a minimum, results of adaptive management changes, status of Management Recommendations and Survey Protocols, a summary of the Strategic Survey Implementation Guide (including the status of strategic surveys), status and results of ongoing monitoring, and important new management direction. This report is the primary tool for the public to find out about annual changes to species assignments and resultant application of surveys to Agency activities. The Agencies will establish a mailing list for all persons wishing to receive all or a part of this report. Until and unless the Agencies identify and publish an alternative source, such requests should be addressed to the Interagency Survey and Manage Program Manager, c/o Regional Ecosystem Office, P.O. Box 3623, Portland, OR 97208-3623.

Monitoring

The primary objective of monitoring relative to Survey and Manage species is to evaluate progress toward meeting species persistence objectives. Monitoring for the Survey and Manage Standards

and Guidelines will continue to follow the monitoring direction included in the Northwest Forest Plan and will be further defined and adapted to the new categories described in these standards and guidelines. Modifications will build upon new information identified in the November 2000 Survey and Manage FSEIS and compiled in future years during the annual Species Review Process. Sources of new information that will contribute to monitoring, and help identify the specific monitoring questions, include pre-disturbance and strategic surveys, as well as publications, research results, public, academia, and other sources.

The Northwest Forest Plan Record of Decision monitoring section at pages E-4 through E-10 identifies three types of monitoring:

1. Implementation monitoring for the Northwest Forest Plan began in 1996 and has been conducted annually. Future Northwest Forest Plan implementation monitoring protocols will be revised as needed to fully cover these standards and guidelines.
2. Effectiveness monitoring for Survey and Manage is expected to be most appropriately addressed as part of the Biological Diversity effectiveness monitoring (as described in the Northwest Forest Plan Record of Decision, page E-8) and will focus on multiple species and habitat relationships. Also some of the special monitoring issues and situations discussed on pages E-10 and 11 are particularly relevant.
3. Validation monitoring questions described in the Northwest Forest Plan that relate to Survey and Manage substantially overlap with the questions that strategic surveys are designed to address. Strategic surveys and the annual analysis that is part of the Species Review Process are generally expected to contribute substantially to meeting validation monitoring objectives.

Review by the Regional Ecosystem Office

Three documents are referenced in these standards and guidelines: Management Recommendations, Survey Protocols, and Strategic Survey Implementation Guide. Each document plays an important role in accomplishing Survey and Manage objectives. As described for the particular document elsewhere in these standards and guidelines, they are typically written for the species range. The documents are the responsibility of management working closely with taxa experts; they are developed by taxa experts and land managers (at any administrative level) for use at field offices of the BLM and Forest Service. New or revised versions of these documents are subject to review by the REO to ensure they identify and integrate the habitat or life-history factors key to managing the species to the level of protection intended in the standards and guidelines. Other processes (e.g., exceptions to management of known sites, changes in categories resulting from the annual species analysis) are also subject to REO (or RIEC) review as described in these standards and guidelines. The REO or RIEC may develop criteria to exempt certain documents or processes from review.

“Subject to review by the Regional Ecosystem Office” means review is required unless the REO has specifically provided an exemption. As described in the Northwest Forest Plan Standards and Guidelines, page E-16, the REO provides staff work and support to facilitate RIEC decisions. Although the standards and guidelines refer to REO review, it is understood that the REO recommends to the RIEC who has responsibility for the decisions. The RIEC may delegate responsibility to complete these reviews.

VIII. Additional Mitigation Measures

Manage Sites Known as of September 30, 1999, for Two Mollusk Species

For two mollusk species, *Megomphix hemphilli* south of Lincoln, Benton, and Linn Counties in Oregon, and *Monadenia churchi*, sites known as of September 30, 1999, will be managed as known sites.

Equivalent-effort Surveys for Eight Mollusk Species

Eight mollusk species, *Ancotrema voyanum*, *Deroceras hesperium*, *Helminthoglypta hertleini*, *Hemphillia pantherina*, *Monadenia chaceana*, *Monadenia fidelis klamathica*, *Monadenia fidelis ochromphalus*, and *Pristoloma articum crateris*, are not considered practical to survey for, but require equivalent-effort pre-disturbance surveys. Equivalent-effort surveys for five of the eight species will simply continue to follow the Survey Protocols previously in use under Category 2 of the Northwest Forest Plan. The development of Survey Protocols for the other three (*A. voyanum*, *M.f. klamathica*, and *M.F. ochromphalus*) would normally fall under the survey protocol phase-in language in these standards and guidelines, but since these species are rare, have limited ranges, and habitat-disturbing activities are limited only to grazing (see note at the end of Management Recommendations section), the Agencies are directed to prepare survey protocols and initiate surveys as soon as practicable.

Duration of Additional Mitigation

These two (2) additional mitigations for the 10 mollusks are to remain in effect until:

- For the two species receiving manage known sites as of September 30, 1999, continue this mitigation as long as they remain in Category F.
- For the eight (8) species receiving equivalent-effort surveys, continue this mitigation as long as the species remain in Categories B or E and strategic surveys are not completed. If species are still in Categories B or E when strategic surveys are completed, and information about these species, analyzed and considered through the Species Review Process, indicates the three management elements of *manage known sites*, *practical pre-disturbance surveys*, and

continued *strategic surveys* will not provide a reasonable assurance of persistence, this mitigation will be retained.

The above conditions rely on the Species Review Process as described in the standards and guidelines, including its' criteria for defining categories and defining concern for persistence. Like the process for changing species between categories, the above conditions and criteria are well defined and are expected to be implemented without further NEPA analysis.

IX. White-headed woodpecker, Black-backed woodpecker, Pigmy nuthatch, and Flammulated owl

Standard and Guideline

The white-headed woodpecker, black-backed woodpecker, pygmy nuthatch, and flammulated owl will not be sufficiently aided by applying mitigation measures for riparian habitat protection or other elements of the Northwest Forest Plan. These four species occur on the periphery of the range of the northern spotted owl on the east slope of the Cascade Range in Washington and Oregon. Additionally, the white-headed woodpecker and flammulated owl occur in the Klamath Provinces in northwestern California and southwestern Oregon.

To ensure that the distribution and numbers of all four species do not decline on BLM Districts and National Forests within the range of the northern spotted owl, adequate numbers of large snags and green-tree replacements for future snags in appropriate forest types within the range of these four species will be maintained in sufficient numbers to maintain 100 percent of potential population levels of these four species.

Specific application details are relegated to the Management Recommendation so they may be more easily kept current with existing science, experience, and species status. The Management Recommendation provides specific instructions for meeting the objectives and requirements of this standard and guideline. Management Recommendations for these species may be revised using the same process described in the Survey and Manage Standards and Guidelines for preparing or revising Management Recommendations for Survey and Manage species. Changes to Management Recommendations are subject to review by the REO.

Management Recommendation

These species will not be sufficiently aided by application of mitigation measures for riparian habitat protection or for marbled murrelets alone. They all occur on the periphery of the range of the northern spotted owl on the east slope of the Cascade Range in Washington or Oregon. Additionally, the white-headed woodpecker and flammulated owl occur in the Klamath Province in northwestern California and southwestern Oregon. The viability of all four species within the

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range of the northern spotted owl was rated as a medium risk on National Forests, although they each are much more widely distributed elsewhere.

Apply the following mitigation standards and guidelines to ensure that the distribution and numbers of all four species do not severely decline on BLM Districts and National Forests within the range of the northern spotted owl. These guidelines apply to the forest matrix outside designated habitat for the northern spotted owl and Riparian Reserves. Maintain adequate numbers of large snags and green-tree replacements for future snags within the four species' ranges in appropriate forest types. Where feasible, green-tree replacements for future snags can be left in groups to reduce blowdown. Specifically, snags over 20 inches dbh are particularly valuable for these species. Snags over 20 inches dbh may be marked for cutting only after retaining the best available snags (considering size, longevity, etc.) in sufficient numbers to meet 100 percent of potential population levels of these four species. It is recognized, however, that safety considerations may prevent always retaining all snags. Use of standardized definitions of hazard trees is required. For the longer term, provide for sufficient numbers of green trees to provide for the full (100 percent) population potential of each species.

As depicted by Neitro in *Management of Wildlife and Fish Habitats in Forest of Western Oregon and Washington* (1985), the 100 percent population potential for white-headed woodpeckers is 0.60 conifer snags (ponderosa pine or Douglas-fir) per acre in forest habitats; these snags must be at least 15 inches dbh (or largest available if 15 inch dbh snags are not available) and in soft decay stages, and must be provided in stands of ponderosa pine and mixed pine/Douglas-fir. The 100 percent population potential for black-backed woodpeckers is 0.12 conifer snags per acre in forest habitats; these snags must be at least 17 inches dbh (or largest available if 17 inch dbh snags are not available) and in hard decay stages, and must be provided in stands of mixed conifer and lodgepole pine in higher elevations of the Cascade Range. However, the snag numbers representing 100 percent potential population levels cited from Neitro must be updated as appropriate new references become available. Provision of snags for other cavity-nesting species, including primary cavity-nesters, must be added to the requirements for these two woodpecker species. Site-specific analysis, and application of a snag recruitment model (specifically, the Forest Service's Snag Recruitment Simulator) taking into account tree species, diameters, falling rates, and decay rates, will be required to determine appropriate tree and snag species mixes and densities. If snag requirements cannot be met, then harvest must not take place.

As identified by the expert FEMAT panel, black-backed woodpeckers also require beetle infested trees for foraging; some such trees should be provided in appropriate habitat, and sanitation harvest of all such trees would be detrimental to the species. More information is needed on habitat use, seasonal occurrence, and use of forest age classes and burns, for the black-backed woodpecker.

Pygmy nuthatches use habitat very similar to those of white-headed woodpeckers. Pygmy nuthatches require large trees, typically ponderosa pine within the range of the northern spotted owl, for roosting. Provision of snags for white-headed woodpeckers is assumed to provide for the needs of pygmy nuthatch, as no species-specific guidelines for the species have been developed.

Additional information on ecology of pygmy nuthatch within the range of the northern spotted owl is needed to develop more precise standards and guidelines.

Flammulated owls are secondary cavity-nesters and use cavities, in snags and live trees, created by woodpeckers or, less often, that occur naturally. It is assumed that standards and guidelines for snags and green-tree replacements for woodpeckers and other primary cavity-nesting species, as provided by existing BLM Resource Management Plans and National Forest Land and Resource Management Plans and for the woodpeckers in this species group, would provide for flammulated owls.

Note: The snag recommendations above are based on the model presented by Neitro and others (1985). In that model, snag requirements for individual species were treated as additive in developing snag requirements for the overall community of cavity excavators. As noted above, "provision of snags for other cavity-nesting species, including primary cavity nesters, must be added to the requirements for these two woodpecker species" (black-backed and white headed woodpeckers).

Snag requirements are developed by the BLM Districts and National Forests for specific forest cover types, and these may be further broken down by geographic location. The intent is to tailor the requirements to those species that are actually expected to occur in an area. To determine if the protection buffer requirements should be added to existing BLM or Forest Service land use plan requirements, the basis for those existing requirements should be analyzed to determine if they include the species identified by the 1993 Forest Service Scientific Analysis Team (SAT) at the specified level of percent population potential. If they do not, then the SAT requirements must be added to the existing BLM or Forest Service land use plan requirements.

X. Canada lynx

Standard and Guideline

Proposed Actions

The Forest Service will follow the conservation agreement for the Canada lynx in making any new decision to undertake actions affecting Canada lynx or their habitat, and to fully meet their Endangered Species Act, National Forest Management Act, and National Environmental Policy Act responsibilities. A proposed or new action is one for which a federal agency does not yet have a decision notice, record of decision, or decision memo. Major features of this conservation agreement include:

For actions on National Forest System lands which are proposed by and/or involve third parties, such as pipeline corridors, access requests, issuance of new authorizations upon expiration of existing authorizations or permits, etc., the Forest Service, in consultation with the U.S. Fish and

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Wildlife Service, agrees to review and consider the new information on the Canada lynx included in the Lynx Conservation Assessment and Strategy, the Science Report, and appropriate local information to ensure compliance with all applicable federal laws, including the Endangered Species Act, National Environmental Policy Act, and the National Forest Management Act, during the Agency's analysis and decision-making processes. Grazing permits subject to Section 504 of the 1995 Rescissions Act will be issued consistent with that Act.

For actions on National Forest System lands which are proposed by the Forest Service and do not involve third parties, an evaluation of the action will be prepared using relevant new information, including the Lynx Conservation Assessment and Strategy and the Science Report, to determine whether the activity may affect Canada lynx. The Lynx Conservation Assessment and Strategy will be used and referenced in all determinations of effect for Canada lynx. If the evaluation indicates an activity is likely to adversely affect the lynx, the Agency will not authorize the activity until plans are revised or amended as described in Part 2 of the Canada Lynx Conservation Agreement to include Canada lynx conservation standards.

The Forest Service, in cooperation with the U.S. Fish and Wildlife Service, will look for opportunities to undertake proactive management actions to benefit Canada lynx based on the Lynx Conservation Assessment and Strategy, to the extent they are consistent with current land and resource management plans.

Ongoing Actions

All agency actions in suitable Canada lynx habitat that have gone through agency planning processes and have a documented agency decision (decision memo, decision notice, or record of decision) will be reviewed, based on new information on the Canada lynx, including that in the Lynx Conservation Assessment and Strategy and Science Report, as appropriate, to ensure compliance with the Endangered Species Act, National Forest Management Act, National Environmental Policy Act, and other applicable laws.

Note: The complete text of the Forest Service/U.S. Fish and Wildlife Service conservation agreement, the *Canada Lynx Conservation Assessment and Strategy*, and the Lynx Science Report, *The Scientific Basis for Lynx Conservation* (Ruggiero et al. 1999), are available on the web at: www.fs.fed.us/r1/planning/lynx/lynx.html.

The BLM has recently reviewed its evaluations of potential suitable lynx habitat on lands it administers within the species suspected range in the planning area. Based upon criteria for identifying and mapping suitable habitat as recommended by the Lynx Science Team, this recent review has concluded that no suitable lynx habitat occurs on BLM administered lands in the planning area.

XI. Provide Additional Protection for Caves, Mines, and Abandoned Wooden Bridges and Buildings that are Used as Roost Sites for Bats

Standard and Guideline

Most bat species occurring in the Pacific Northwest roost and hibernate in crevices or caverns in protected sites. Suitable roost sites and hibernacula fall within a specific range of temperature and moisture conditions. Sites commonly used by bats include caves, mines, snags and decadent trees, wooden bridges, and old buildings. Provisions for retention of large snags and decadent trees are included in the standard and guideline for green tree patches in the Matrix. Caves and abandoned mines, wooden bridges and buildings, however, are extremely important roost and hibernation sites for which additional feasible protection measures are required to ensure their value as habitat is maintained.

This standard and guideline applies to all bat species that would benefit and that the reserves and other standards and guidelines of the Northwest Forest Plan may not provide a reasonable assurance of persistence. In all land allocations, protect caves, and abandoned mines, wooden bridges and buildings used by bats from destruction, vandalism, and disturbance from road construction or blasting, or other activities that could change microclimate conditions or drainage patterns affecting use by bats. Protection of these structures must be contingent on safety concerns and legal requirements. Management of occupied sites will be consistent with the bats Management Recommendation. Site-specific roost plans based on inventory and mapping of resources will be completed when such plans are a needed tool to protect or mitigate roost habitat for bats.

The Management Recommendation provides specific instructions for meeting the objectives and requirements of this standard and guideline. Management Recommendations for these species may be revised using the same process described in these standards and guidelines for preparing or revising Management Recommendations for Survey and Manage species. The Management Recommendations may include guidelines for: (1) conducting searches; (2) identifying likely bat use; (3) identifying appropriate circumstances for species identification; (4) establishing conditions under which specific mitigation measures will be applied to project activity plans; (5) describing various no-harvest buffer widths to fit specific habitat conditions; or, (6) other guidelines to help determine site-specific management needs.

For the purposes of this standard and guideline, caves are defined as in the Federal Cave Resources Protection Act of 1988 as:

“Any naturally occurring void, cavity, recess, or system of interconnected passages which occur beneath the surface of the earth or within a cliff or ledge (...but not including any ... man-made excavation) and which is large enough to

permit an individual to enter, whether or not the entrance is naturally formed or man-made.”

Management Recommendation

This Management Recommendation is intended to provide additional feasible protection for roost sites for bats including the fringed myotis, silver-haired bat, long-eared myotis, long-legged myotis, pallid bat, and Townsend’s big-eared bat. This species list should be revised as necessary to include other bat species that: (1) would benefit from inclusion in this standard and guideline, and (2) the reserves and other standards and guidelines of the Northwest Forest Plan may not provide a reasonable assurance of persistence.

The Agencies will determine if each cave, abandoned mine, abandoned wooden bridge, and abandoned building that may be affected by the Agencies’ management activities warrants management as an occupied bat site. To make this determination, the Agencies may either conduct non-intrusive surveys to determine presence of bats, or may presume presence where conclusive surveys are not conducted. Criteria for defining non-intrusive surveys, survey conclusiveness and occupancy are to be described in the Survey Protocols and Management Recommendations, as appropriate. Individual species identification is not required in order to presume occupancy by target species. For sites occupied by bats, the Agencies will prohibit timber harvest within 250 feet of the site, and develop management direction for the site, as necessary, that includes an inventory and mapping of resources, and plans for protection of the site from vandalism, disturbance from road construction or blasting, and any activity that could change cave temperatures or drainage patterns. The size of the buffer, and types of activities allowed within the buffer, may be modified through the management direction developed for the specific site.

Townsend’s big-eared bats are of concern to state wildlife agencies in both Washington and Oregon. These bats are strongly associated with caves, and are extremely sensitive to disturbance, especially from recreational cavers. When Townsend’s big-eared bats are found occupying caves or mines on federal land, the appropriate state agency should be notified, and management prescriptions for that site should include special consideration for potential impacts on this species.

XII. Former Protection Buffer Species Without Management Recommendations

For former Protection Buffer species included in Survey and Manage but without approved Management Recommendations, management of known sites will follow the former Northwest Forest Plan Protection Buffer direction (except no LSRs or MLSAs are created), latest information (including that displayed in the November 2000 Survey and Manage FSEIS), and best professional judgement until a Management Recommendation is approved. Listed below is the former Protection Buffer direction for the five affected species: great gray owl and Del Norte, Siskiyou Mountains, Larch Mountain, and Shasta salamanders. This direction will be replaced with

Management Recommendations prepared according to the Management Recommendations standards and guidelines.

Great Gray Owl: Within the range of the northern spotted owl, the great gray owl is most common in lodgepole pine forests adjacent to meadows. However, it is also found in other coniferous forest types. In some locations, such as on the Willamette National Forest west of the crest of the Cascade Range, at least some shelterwood harvesting seems to be beneficial for the species by opening up otherwise closed canopy cover for foraging. In doing so, consequences to species such as northern goshawk and American marten must be evaluated. Specific mitigation measures for the great gray owl, within the range of the northern spotted owl, include the following: provide a no-harvest buffer of 300 feet around meadows and natural openings and establish 1/4-mile protection zones around known nest sites. Within one year of the signing of the [1994 NFP] Record of Decision for these standards and guidelines, develop and implement a standardized protocol for surveys; survey for nest locations using the protocol. Protect all future discovered nest sites as previously described.

Larch Mountain Salamander: Because of the narrow distribution of this species, mostly within the Columbia River Gorge, primary emphasis should be to survey and protect all known sites. Sites must be identified based on fall surveys conducted using a standardized protocol. Known sites are included within boundaries of conservation areas and under these guidelines, are not to be disturbed. Surveys are needed at additional sites in the forest matrix along the Columbia River Gorge. Key habitat is mossy talus protected by overstory canopy. Avoiding any ground-disturbing activity that would disrupt the talus layer where this species occurs is the primary means of protection. Once sites are identified, maintain 40 percent canopy closure of trees within the site and within a buffer of at least the height of one site-potential tree or 100 feet horizontal distance, whichever is greater, surrounding the site. Larger buffer widths are appropriate upslope from protected sites on steep slopes. Partial harvest may be possible if canopy closure can be retained; in such cases logging must be conducted using helicopters or high-lead cable systems to avoid disturbance of the talus layer. The implementation schedule for this species is the same as for [1994 NFP] survey and manage components 1 and 2.

Siskiyou Mountain Salamander: This species occurs within an extremely narrow range on the Rogue River, Siskiyou, and Klamath National Forests. Its range does not fall within any of the Habitat Conservation Areas identified by the Interagency Scientific Committee in Oregon. Additional surveys conducted using a standardized protocol must be undertaken to delineate range and identify subpopulations. All populations must be protected by delineating an occupied site and avoiding disturbance of talus throughout the site, especially on moist, north-facing slopes, particularly in Oregon where Habitat Conservation Areas do not incorporate species' range. Because this species seems to require cool, moist conditions, a buffer of at least the height of one site-potential tree or 100 feet horizontal distance, whichever is greater, surrounding the site, must be retained around the outer periphery of known sites. Overstory trees must not be removed within the boundary of this buffer. The implementation schedule for this species is the same as for [1994 NFP] survey and manage components 1 and 2.

Survey and Manage and other Mitigation Measures

Del Norte Salamander: This species occurs in talus slopes protected by overstory canopy that maintains cool, moist conditions on the ground. The species is a slope-valley inhabitant, and sometimes occurs in high numbers near riparian areas. Riparian Reserves, in combination with Late-Successional Reserves and other reserves, will offer some protection to the species but significant numbers also occur in upland areas. Additional mitigation options in this upland matrix include identifying locations (talus areas inhabited by the species) by using a standardized survey protocol [no longer required; the species is in Category D], then protecting the location from ground-disturbing activities. Designate a buffer of at least the height of one site-potential tree or 100-foot horizontal distance, whichever is greater, surrounding the location. Within the site and its surrounding buffer, maintain 40 percent canopy closure and avoid any activities that would directly disrupt the surface talus layer. Partial harvest within the buffer may be possible if 40 percent canopy closure can be maintained; in such cases, tree harvest must be conducted using helicopters or high-lead cable systems to avoid compaction or other disturbance of talus.

Shasta Salamander: This species is very narrowly distributed, occurring only in localized populations on the Shasta-Trinity National Forest. Only a small part of its range is included within Habitat Conservation Areas identified by the Interagency Scientific Committee (1990) (status within Late-Successional Reserves has not been determined). It occurs in association with limestone outcrops, protected by an overstory canopy. All known and future localities must be delineated and protected from timber harvest, mining, quarry activity, and road building within the delineated site, and a buffer of at least the height of one site-potential tree or 100 feet horizontal distance, whichever is greater, should surround the outcrop. Additional surveys conducted using a standardized protocol must be undertaken to identify and delineate all occupied sites within the species' potential range.

TABLES AND EXHIBITS

Table 1-1. Species Included in Survey and Manage Standards and Guidelines and Category Assignment (January 2001)		
TAXA GROUP	<i>Note:</i> Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).	Category
FUNGI		
<i>Acanthophysium farlowii</i>	<i>(Aleurodiscus farlowii)</i>	B
<i>Albatrellus avellaneus</i>		B
<i>Albatrellus caeruleoporus</i>		B
<i>Albatrellus ellisii</i>		B
<i>Albatrellus flettii</i>		B
<i>Alpova alexsmithii</i>		B
<i>Alpova olivaceotinctus</i>		B
<i>Arcangeliella camphorata</i>	<i>(Arcangeliella sp. nov. #Trappe 12382; Arcangeliella sp. nov. #Trappe 12359)</i>	B
<i>Arcangeliella crassa</i>		B
<i>Arcangeliella lactarioides</i>		B
<i>Asterophora lycoperdoides</i>		B
<i>Asterophora parasitica</i>		B
<i>Baeospora myriadophylla</i>		B
<i>Balsamia nigrens</i>	<i>(Balsamia nigra)</i>	B
<i>Boletus haematinus</i>		B
<i>Boletus pulcherrimus</i>		B
<i>Bondarzewia mesenterica</i>	<i>(Bondarzewia montana)</i>	B
<i>Bridgeoporus nobilissimus</i>	<i>(Oxyporus nobilissimus)</i>	A
<i>Cantharellus subalbidus</i>		D
<i>Catathelasma ventricosa</i>		B
<i>Chalciporus piperatus</i>	<i>(Boletus piperatus)</i>	D
<i>Chamonixia caespitosa</i>	<i>(Chamonixia pacifica sp. nov. #Trappe #12768)</i>	B
<i>Choiromyces alveolatus</i>		B
<i>Choiromyces venosus</i>		B
<i>Chromosera cyanophylla</i>	<i>(Mycena lilacifolia)</i>	B
<i>Chroogomphus loculatus</i>		B
<i>Chrysomphalina grossula</i>		B
<i>Clavariadelphus ligula</i>		B
<i>Clavariadelphus occidentalis</i>	<i>(Clavariadelphus pistillaris)</i>	B
<i>Clavariadelphus sachalinensis</i>		B
<i>Clavariadelphus subfastigiatus</i>		B
<i>Clavariadelphus truncatus</i>	<i>(syn. Clavariadelphus borealis)</i>	B

Survey and Manage and other Mitigation Measures

Table 1-1. Species Included in Survey and Manage Standards and Guidelines and Category Assignment (January 2001)		
TAXA GROUP	<i>Note:</i> Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).	Category
FUNGI (continued)		
	<i>Clavulina castanopes</i> v. <i>lignicola</i> (<i>Clavulina ornatipes</i>)	B
	<i>Clitocybe senilis</i>	B
	<i>Clitocybe subditopoda</i>	B
	<i>Collybia bakerensis</i>	B
	<i>Collybia racemosa</i>	B
	<i>Cordyceps capitata</i>	B
	<i>Cordyceps ophioglossoides</i>	B
	<i>Cortinarius barlowensis</i> (syn. <i>Cortinarius azureus</i>)	B
	<i>Cortinarius boulderensis</i>	B
	<i>Cortinarius cyanites</i>	B
	<i>Cortinarius depauperatus</i> (<i>Cortinarius spilomeus</i>)	B
	<i>Cortinarius magnivelatus</i>	B
	<i>Cortinarius olympianus</i>	B
	<i>Cortinarius speciosissimus</i> (<i>Cortinarius rainierensis</i>)	B
	<i>Cortinarius tabularis</i>	B
	<i>Cortinarius umidicola</i> (<i>Cortinarius canabarpa</i>)	B
	<i>Cortinarius valgus</i>	B
	<i>Cortinarius variipes</i>	B
	<i>Cortinarius verrucisporus</i>	B
	<i>Cortinarius wiebeae</i>	B
	<i>Craterellus tubaeformis</i> (syn. <i>Cantharellus tubaeformis</i>)	D
	<i>Cudonia monticola</i>	B
	<i>Cyphellostereum laeve</i>	B
	<i>Dermocybe humboldtensis</i>	B
	<i>Destuntzia fusca</i>	B
	<i>Destuntzia rubra</i>	B
	<i>Dichostereum boreale</i> (<i>Dichostereum granulosum</i>)	B
	<i>Elaphomyces anthracinus</i>	B
	<i>Elaphomyces subviscidus</i>	B
	<i>Endogone acrogena</i>	B
	<i>Endogone oregonensis</i>	B
	<i>Entoloma nitidum</i> (<i>Rhodocybe nitida</i>)	B
	<i>Fayodia bisphaerigera</i> (<i>Fayodia gracilipes</i>)	B
	<i>Fevansia aurantiaca</i> (<i>Alpova</i> sp. nov. # Trappe 1966) (<i>Alpova aurantiaca</i>)	B
	<i>Galerina atkinsoniana</i>	B
	<i>Galerina cerina</i>	B

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TAXA GROUP	<i>Note:</i> Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).	Category
FUNGI (continued)		
<i>Galerina heterocystis</i>		E
<i>Galerina sphagnicola</i>		E
<i>Galerina vittaeformis</i>		B
<i>Gastroboletus imbellus</i>		B
<i>Gastroboletus ruber</i>		B
<i>Gastroboletus subalpinus</i>		B
<i>Gastroboletus turbinatus</i>		B
<i>Gastroboletus vividus</i> (<i>Gastroboletus</i> sp. nov. #Trappe 2897; <i>Gastroboletus</i> sp. nov. #Trappe 7515)		B
<i>Gastrosuillus amaranthii</i> (<i>Gastrosuillus</i> sp. nov. #Trappe 9608)		E
<i>Gastrosuillus umbrinus</i> (<i>Gastroboletus</i> sp. nov. #Trappe 7516)		B
<i>Gautieria magnicellaris</i>		B
<i>Gautieria otthii</i>		B
<i>Gelatinodiscus flavidus</i>		B
<i>Glomus radiatus</i>		B
<i>Gomphus bonarii</i>		B
<i>Gomphus clavatus</i>		B
<i>Gomphus floccosus</i> , In California		F
<i>Gomphus kauffmanii</i>		B
<i>Gymnomyces abietis</i> (<i>Gymnomyces</i> sp. nov. #Trappe 1690, 1706, 1710; <i>Gymnomyces</i> sp. nov. #Trappe 4703, 5576; <i>Gymnomyces</i> sp. nov. #Trappe 5052; <i>Gymnomyces</i> sp. nov. #Trappe 7545; <i>Martellia</i> sp. nov. #Trappe 1700; <i>Martellia</i> sp. nov. #Trappe 311; <i>Martellia</i> sp. nov. #Trappe 5903)		B
<i>Gymnomyces nondistincta</i> (<i>Martellia</i> sp. nov. #Trappe 649)		B
<i>Gymnopilus punctifolius</i>		B
<i>Gyromitra californica</i>		B
<i>Gyromitra esculenta</i>		F
<i>Gyromitra infula</i>		B
<i>Gyromitra melaleucoides</i>		B
<i>Gyromitra montana</i> (<i>Gyromitra gigas</i>)		F
<i>Hebeloma olympianum</i> (<i>Hebeloma olympiana</i>)		B
<i>Helvella crassitunicata</i>		B
<i>Helvella elastica</i>		B
<i>Helvella maculata</i>		B
<i>Hydnotrya inordinata</i> (<i>Hydnotrya</i> sp. nov. #Trappe 787, 792)		B
<i>Hydnotrya subnix</i> (<i>Hydnotrya subnix</i> sp. nov. #Trappe 1861)		B
<i>Hydnum umbilicatum</i>		B

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Table 1-1. Species Included in Survey and Manage Standards and Guidelines and Category Assignment (January 2001)	
TAXA GROUP <i>Species</i>	<i>Note: Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).</i> Category
FUNGI (continued)	
<i>Hydropus marginellus (Mycena marginella)</i>	B
<i>Hygrophorus caeruleus</i>	B
<i>Hygrophorus karstenii</i>	B
<i>Hygrophorus vernalis</i>	B
<i>Hypomyces luteovirens</i>	B
<i>Leucogaster citrinus</i>	B
<i>Leucogaster microsporus</i>	B
<i>Macowanites chlorinosmus</i>	B
<i>Macowanites lymanensis</i>	B
<i>Macowanites mollis</i>	B
<i>Marasmius applanatipes</i>	B
<i>Martellia fragrans</i>	B
<i>Martellia idahoensis</i>	B
<i>Mycena hudsoniana</i>	B
<i>Mycena monticola</i>	B
<i>Mycena overholtsii</i>	B
<i>Mycena quinaultensis</i>	B
<i>Mycena tenax</i>	B
<i>Mythicomyces corneipes</i>	B
<i>Neolentinus adhaerens</i>	B
<i>Neolentinus kauffmanii</i>	B
<i>Neournula pouchetii</i>	B
<i>Nivatogastrium nubigenum</i>	B
<i>Octavianina cyanescens (Octavianina sp. nov. #Trappe 7502)</i>	B
<i>Octavianina macrospora</i>	B
<i>Octavianina papyracea</i>	B
<i>Otidea leporina</i>	B
<i>Otidea onotica</i>	F
<i>Otidea smithii</i>	B
<i>Phaeocollybia attenuata</i>	D
<i>Phaeocollybia californica</i>	B
<i>Phaeocollybia dissiliens</i>	B
<i>Phaeocollybia fallax</i>	D
<i>Phaeocollybia gregaria</i>	B
<i>Phaeocollybia kauffmanii</i>	D
<i>Phaeocollybia olivacea</i>	B

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TAXA GROUP	<i>Note:</i> Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).	Category
FUNGI (continued)		
	<i>Phaeocollybia oregonensis</i> (syn. <i>Phaeocollybia carmanahensis</i>)	B
	<i>Phaeocollybia piceae</i>	B
	<i>Phaeocollybia pseudofestiva</i>	B
	<i>Phaeocollybia scatesiae</i>	B
	<i>Phaeocollybia sipei</i>	B
	<i>Phaeocollybia spadicea</i>	B
	<i>Phellodon atratus</i> (<i>Phellodon atratum</i>)	B
	<i>Pholiota albivelata</i>	B
	<i>Pithya vulgaris</i>	D
	<i>Plectania melastoma</i>	F
	<i>Plectania milleri</i>	B
	<i>Podostroma alutaceum</i>	B
	<i>Polyzellus multiplex</i>	B
	<i>Pseudaleuria quinaultiana</i>	B
	<i>Ramaria abietina</i>	B
	<i>Ramaria amyloidea</i>	B
	<i>Ramaria araiospora</i>	B
	<i>Ramaria aurantiisiccescens</i>	B
	<i>Ramaria botryis</i> var. <i>aurantiiramosa</i>	B
	<i>Ramaria celerivirescens</i>	B
	<i>Ramaria claviramulata</i>	B
	<i>Ramaria concolor</i> f. <i>marrii</i>	B
	<i>Ramaria concolor</i> f. <i>tsugina</i>	B
	<i>Ramaria conjunctipes</i> var. <i>sparsiramosa</i> (<i>Ramaria fasciculata</i> var. <i>sparsiramosa</i>)	B
	<i>Ramaria coulterae</i>	B
	<i>Ramaria cyaneigranosa</i>	B
	<i>Ramaria gelatiniaurantia</i>	B
	<i>Ramaria gracilis</i>	B
	<i>Ramaria hilaris</i> var. <i>olympiana</i>	B
	<i>Ramaria largentii</i>	B
	<i>Ramaria lorithamnus</i>	B
	<i>Ramaria maculatipes</i>	B
	<i>Ramaria rainierensis</i>	B
	<i>Ramaria rubella</i> var. <i>blanda</i>	B
	<i>Ramaria rubribrunnescens</i>	B
	<i>Ramaria rubrievanescens</i>	B

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TAXA GROUP	<i>Note:</i> Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).	Category
FUNGI (continued)		
<i>Ramaria rubripermanens</i>		B
<i>Ramaria spinulosa</i> var. <i>diminutiva</i> (<i>Ramaria spinulosa</i>)		B
<i>Ramaria stuntzii</i>		B
<i>Ramaria suecica</i>		B
<i>Ramaria thiersii</i>		B
<i>Ramaria verlotensis</i>		B
<i>Rhizopogon abietis</i>		B
<i>Rhizopogon atroviolaceus</i>		B
<i>Rhizopogon brunneiniger</i>		B
<i>Rhizopogon chamaleontinus</i> (<i>Rhizopogon</i> sp. nov. #Trappe 9432)		B
<i>Rhizopogon elliposporus</i> (<i>Alpova</i> sp. nov. # Trappe 9730)		B
<i>Rhizopogon evadens</i> var. <i>subalpinus</i>		B
<i>Rhizopogon exiguus</i>		B
<i>Rhizopogon flavofibrillosus</i>		B
<i>Rhizopogon inquinatus</i>		B
<i>Rhizopogon truncatus</i>		D
<i>Rhodocybe speciosa</i>		B
<i>Rickenella swartzii</i> (<i>Rickenella setipes</i>)		B
<i>Russula mustelina</i>		B
<i>Sarcodon fuscoindicus</i>		B
<i>Sarcodon imbricatus</i>		B
<i>Sarcosoma latahense</i> (<i>Plectania latahensis</i>)		B
<i>Sarcosoma mexicanum</i> , WA, CA, and Curry and Josephine Counties, OR		F
<i>Sarcosphaera coronaria</i> (<i>Sarcosphaera eximia</i>)		B
<i>Sedecula pulvinata</i>		B
<i>Sowerbyella rhenana</i> (<i>Aleuria rhenana</i>)		B
<i>Sparassis crispa</i>		D
<i>Spathularia flavida</i>		B
<i>Stagnicola perplexa</i>		B
<i>Thaxterogaster pavelekii</i> (<i>Thaxterogaster</i> sp. nov. #Trappe 4867, 6242, 7427, 7962, 8520)		B
<i>Tremiscus helvelloides</i> (syn. <i>Phlogiotis helvelloides</i>)		B
<i>Tricholoma venenatum</i>		B
<i>Tricholomopsis fulvescens</i>		B
<i>Tuber asa</i> (<i>Tuber</i> sp. nov. #Trappe 2302)		B
<i>Tuber pacificum</i> (<i>Tuber</i> sp. nov. #Trappe 12493)		B
<i>Tylopilus porphyrosporus</i> (<i>Tylopilus pseudoscaber</i>)		D

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LICHENS		
<i>Bryoria pseudocapillaris</i>		B
<i>Bryoria spiralifera</i>		B
<i>Bryoria subcana</i> (syn. <i>Alectoria subcana</i>)		B
<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		A
<i>Bryoria tortuosa</i> , WA Eastern Cascades, OR Eastern Cascades, OR Klamath, CA Klamath, and CA Cascades Physiographic Provinces		D ¹
<i>Buellia oidalea</i>		E
<i>Calicium abietinum</i>		B
<i>Calicium adpersum</i>		E
<i>Calicium glaucellum</i>		F
<i>Calicium viride</i>		F
<i>Cetrelia cetrarioides</i>		E
<i>Chaenotheca chrysocephala</i>		B
<i>Chaenotheca ferruginea</i>		B
<i>Chaenotheca furfuracea</i>		F
<i>Chaenotheca subroscida</i>		E
<i>Chaenothecopsis pusilla</i> (syn. <i>Chaenothecopsis subpusilla</i> , <i>Calcium asikkalense</i> , <i>Calcium floerkei</i> , <i>Calcium pusillum</i> , <i>Calcium subpusillum</i>)		E
<i>Cladonia norvegica</i>		B
<i>Collema nigrescens</i> , in WA and OR, except in OR Klamath Physiographic Province		F
<i>Dendriscoaulon intricatum</i>		B
<i>Dermatocarpon luridum</i>		B
<i>Heterodermia sitchensis</i>		E
<i>Hypogymnia duplicata</i> (syn. <i>Hypogymnia elongata</i>)		A
<i>Hypogymnia oceanica</i>		F
<i>Hypogymnia vittata</i> (<i>Hygomnia vittata</i>)		E
<i>Hypotrachyna revoluta</i> (syn. <i>Parmelia revoluta</i>)		E
<i>Leptogium burnetiae</i> var. <i>hirsutum</i> (syn. <i>Leptogium hirsutum</i>)		A
<i>Leptogium cyanescens</i>		A
<i>Leptogium rivale</i>		B
<i>Leptogium teretiusculum</i>		E
<i>Lobaria linita</i>		A
<i>Lobaria oregana</i> , In California		A
<i>Microcalicium arenarium</i>		B
<i>Nephroma bellum</i>		F

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LICHENS (continued)		
<i>Nephroma isidiosum</i>		E
<i>Nephroma occultum</i>		B
<i>Niebla cephalota</i> (syn. <i>Desmazieria cephalota</i> , <i>Ramalina cephalota</i>)		A
<i>Pannaria rubiginosa</i>		E
<i>Pannaria saubinetii</i>		F
<i>Peltigera pacifica</i>		E
<i>Platismatia lacunosa</i>		C
<i>Pseudocyphellaria</i> sp. 1 (<i>Pseudocyphellaria mougeotiana</i>)		B
<i>Pseudocyphellaria rainierensis</i>		A
<i>Pyrrhospora quernea</i> (syn. <i>Lecidea quernea</i> , <i>Protoblastenia quernea</i>)		E
<i>Ramalina pollinaria</i>		E
<i>Ramalina thrausta</i>		A
<i>Stenocybe clavata</i>		E
<i>Teloschistes flavicans</i>		A
<i>Tholurna dissimilis</i> , south of Columbia River		B
<i>Usnea hesperina</i>		B
<i>Usnea longissima</i> , In California and in Curry, Josephine, and Jackson Counties, Oregon		A
<i>Usnea longissima</i> , In Oregon, except in Curry, Josephine, and Jackson Counties and in Washington		F
BRYOPHYTES		
<i>Brotherella roellii</i>		E
<i>Buxbaumia viridis</i>		D ¹
<i>Diplophyllum albicans</i>		D
<i>Diplophyllum plicatum</i>		B
<i>Encalypta brevicolla</i> v. <i>crumiana</i>		B
<i>Herbertus aduncus</i>		B
<i>Iwatsukiella leucotricha</i>		B
<i>Kurzia makinoana</i>		B
<i>Marsupella emarginata</i> v. <i>aquatica</i>		B
<i>Orthodontium gracile</i>		B
<i>Ptilidium californicum</i> , In California		A
<i>Racomitrium aquaticum</i>		B
<i>Rhizomnium nudum</i>		B
<i>Schistostega pennata</i>		A
<i>Tetraphis geniculata</i>		A
<i>Tritomaria exsectiformis</i>		B
<i>Tritomaria quinquedentata</i>		B

Table 1-1. Species Included in Survey and Manage Standards and Guidelines and Category Assignment (January 2001)		
TAXA GROUP	<i>Note:</i> Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).	Category
VERTEBRATES		
Del Norte salamander	<i>Plethodon elongatus</i>	D ¹
Larch Mountain salamander	<i>Plethodon larselli</i>	A
Shasta salamander	<i>Hydromantes shastae</i>	A
Siskiyou Mountains salamander	<i>Plethodon stormi</i>	C
Van Dyke's salamander	<i>Plethodon vandykei</i> (Cascade population only)	A
Great Gray Owl	<i>Strix nebulosa</i>	C
Oregon Red Tree Vole	<i>Arborimus longicaudus</i>	C
MOLLUSKS		
<i>Ancotrema voyanum</i>		E ^{3,4}
<i>Cryptomastix devia</i>		A
<i>Cryptomastix hendersoni</i>		A
<i>Deroceras hesperium</i>		B ⁴
<i>Fluminicola</i> n. sp. 1		A ²
<i>Fluminicola</i> n. sp. 2		A
<i>Fluminicola</i> n. sp. 3		A ²
<i>Fluminicola</i> n. sp. 11		A ²
<i>Fluminicola</i> n. sp. 14		A
<i>Fluminicola</i> n. sp. 15		A
<i>Fluminicola</i> n. sp. 16		A
<i>Fluminicola</i> n. sp. 17		A
<i>Fluminicola</i> n. sp. 18		A
<i>Fluminicola</i> n. sp. 19		A ²
<i>Fluminicola</i> n. sp. 20		A ²
<i>Fluminicola seminalis</i>		A ²
<i>Helminthoglypta hertleini</i>		B ⁴
<i>Helminthoglypta talmadgei</i>		A
<i>Hemphillia burringtoni</i> (<i>Hemphillia</i> "burringtoni")		A
<i>Hemphillia glandulosa</i>		C
<i>Hemphillia malonei</i>		C
<i>Hemphillia pantherina</i>		B ⁴
<i>Juga</i> (<i>O</i>) n. sp. 2		A
<i>Juga</i> (<i>O</i>) n. sp. 3		A
<i>Lyogyrus</i> n. sp. 1		A
<i>Lyogyrus</i> n. sp. 2		A
<i>Lyogyrus</i> n. sp. 3		A
<i>Megomphix hemphilli</i> , South of south boundary of Lincoln, Benton, and Linn Counties, Oregon		F ⁵
<i>Megomphix hemphilli</i> , North of south boundary of Lincoln, Benton, and Linn Counties, Oregon		A
<i>Monadenia chaceana</i>		B ⁴
<i>Monadenia churchi</i>		F ⁵
<i>Monadenia fidelis klamathica</i>		B ^{3,4}
<i>Monadenia fidelis minor</i>		A

Survey and Manage and other Mitigation Measures

Table 1-1. Species Included in Survey and Manage Standards and Guidelines and Category Assignment (January 2001)	
TAXA GROUP <i>Species</i>	<i>Note: Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).</i> Category
MOLLUSKS (continued)	
<i>Monadenia fidelis ochromphalus</i>	B ^{3,4}
<i>Monadenia troglodytes troglodytes</i>	A
<i>Monadenia troglodytes wintu</i>	A
<i>Oreohelix</i> n. sp.	A
<i>Pristoloma articum crateris</i>	B ^{2,4}
<i>Prophysaon coeruleum</i> , In California and Washington	A
<i>Trilobopsis roperi</i>	A
<i>Trilobopsis tehamana</i>	A
<i>Vertigo</i> n. sp.	A
<i>Vespericola pressleyi</i>	A
<i>Vespericola shasta</i>	A
<i>Vorticifex klamathensis sinitsini</i>	E
<i>Vorticifex</i> n. sp. 1	E
VASCULAR PLANTS	
<i>Arceuthobium tsugense mertensiana</i> (Washington only)	F
<i>Bensoniella oregana</i> (California only)	A
<i>Botrychium minganense</i> , In Oregon and California	A
<i>Botrychium montanum</i>	A
<i>Coptis asplenifolia</i>	A
<i>Coptis trifolia</i>	A
<i>Corydalis aquae-gelidae</i>	C
<i>Cypripedium fasciculatum</i> (entire range)	C
<i>Cypripedium montanum</i> (entire range)	C
<i>Eucephalus vialis</i> (<i>Aster vialis</i>)	A
<i>Galium kamschaticum</i> , Olympic Peninsula, WA Eastern Cascades, OR & WA Western Cascades Physiographic Provinces, south of Snoqualmie Pass	A
<i>Platanthera orbiculata</i> var. <i>orbiculata</i> (<i>Habenaria orbiculata</i>)	C
ARTHROPODS	
Canopy herbivores (south range)	F
Coarse wood chewers (south range)	F
Litter and soil dwelling species (south range)	F
Understory and forest gap herbivores (south range)	F
<p>¹ Although Pre-Disturbance Surveys are deemed practical for these species, continuing pre-disturbance surveys is not necessary in order to meet management objectives.</p> <p>² For these species, until Management Recommendations are written, the following language will be considered part of the Management Recommendation: "Known and newly discovered sites of these species will be protected from grazing by all practical steps to ensure that the local population of the species will not be impacted."</p>	

Table 1-1. Species Included in Survey and Manage Standards and Guidelines and Category Assignment (January 2001)		
TAXA GROUP	<i>Note:</i> Where taxon has more than one name indicated, first name is current accepted name, second one (in parentheses) is name used in NFP (Table C-3).	Category
<p>FOOTNOTES (continued)</p> <p>³ For these species, until Management Recommendations are written, the language “known and newly discovered sites of these species will be protected from grazing by all practical steps to ensure that the local population of the species will not be impacted” is the Management Recommendation and no other recommendations are imposed at this time.</p> <p>⁴ Based upon direction contained in the ROD, equivalent-effort pre-disturbance surveys are required for these eight mollusk species.</p> <p>⁵ Based upon direction contained in the ROD, these two mollusk species require management of sites known as of 9/30/99.</p>		

Survey and Manage and other Mitigation Measures

Table 1-2. Species Removed from Survey and Manage, Protection Buffers, and Protect From Grazing in All or Part of Their Range (January 2001).	
TAXA GROUP <i>Species</i>	1994 NFP Category
FUNGI	
<i>Bryoglossum gracile</i> ¹	1, 3
<i>Cantharellus cibarius</i>	3, 4
<i>Cantharellus formosus</i>	1, 3
<i>Clavariadelphus borealis</i>	3, 4
<i>Clavariadelphus lovejoyae</i>	3, 4
<i>Clavicornia piperata</i> (<i>Clavicornia avellanea</i>)	3
<i>Clavulina cinerea</i>	3, 4
<i>Clavulina cristata</i> (syn. <i>C. cinerea</i>)	3, 4
<i>Gomphus floccosus</i> , In Oregon and Washington ²	3
<i>Helvella compressa</i>	1, 3
<i>Hydnum repandum</i>	3
<i>Martellia maculata</i> (<i>Elaphomyces</i> sp. nov. #Trappe 1038)	1, 3
<i>Martellia monticola</i>	1, 3
<i>Omphalina ericetorum</i> (<i>Phytoconis ericetorum</i>)	3, 4
<i>Phaeocollybia carmanahensis</i>	1, 3
<i>Rhizopogon parksii</i> (<i>Rhizopogon</i> sp. nov. #Trappe1692; <i>Rhizopogon</i> sp. nov. #Trappe 1698)	1, 3
<i>Sarcosoma mexicanum</i> , All of Oregon, except Curry and Josephine Counties ²	3, PB
<i>Thaxterogaster pingue</i>	3
LICHENS	
<i>Calicium adaequatum</i> ¹	4
<i>Chaenotheca brunneola</i> ¹	4
<i>Collema nigrescens</i> , In OR Klamath, CA Klamath, and CA Coast Physiographic Provinces ²	4
<i>Cyphelium inquinans</i> ¹	4
<i>Erioderma solediatum</i> ¹	1, 3
<i>Heterodermia leucomelos</i> (syn. <i>Anaptychia leucomelaena</i> , <i>Heterodermia leucomelaena</i>) ¹	1, 3
<i>Hydrothyria venosa</i>	1, 3
<i>Kaernefeltia californica</i> (<i>Cetraria californica</i>) ¹	1, 3
<i>Leioderma solediatum</i> ¹	1, 3
<i>Leptogium brebissonii</i> ¹	1, 3
<i>Leptogium saturninum</i> ¹	4
<i>Lobaria hallii</i>	1, 3
<i>Lobaria oregana</i> , In Oregon and Washington ²	4
<i>Lobaria pulmonaria</i>	4
<i>Lobaria scrobiculata</i>	4
<i>Loxosporopsis corallifera</i> (<i>Loxospora</i> sp. nov. "corallifera")	1, 3
<i>Mycocalicium subtile</i> ¹	4

Table 1-2. Species Removed from Survey and Manage, Protection Buffers, and Protect From Grazing in All or Part of Their Range (January 2001).	
TAXA GROUP <i>Species</i>	1994 NFP Category
LICHENS (continued)	
<i>Nephroma helveticum</i>	4
<i>Nephroma laevigatum</i>	4
<i>Nephroma parile</i>	4
<i>Nephroma resupinatum</i>	4
<i>Pannaria leucostictoides</i>	4
<i>Pannaria mediterranea</i>	4
<i>Peltigera collina</i>	4
<i>Peltigera neckeri</i> ¹	4
<i>Pilophorus nigricaulis</i> ¹	1, 3
<i>Pseudocyphellaria anomala</i>	4
<i>Pseudocyphellaria anthraspis</i>	4
<i>Pseudocyphellaria crocata</i>	4
<i>Stenocybe major</i> ¹	4
<i>Sticta arctica</i> ¹	1, 3
<i>Sticta beauvoisii</i>	4
<i>Sticta fuliginosa</i>	4
<i>Sticta limbata</i>	4
<i>Tholurna dissimilis</i> , north of Columbia River ²	1, 3
BRYOPHYTES	
<i>Antitrichia curtipendula</i>	4
<i>Bartramiopsis lescurii</i> ¹	1, 3
<i>Douinia ovata</i> ¹	4
<i>Herbertus sakuraii</i> ¹	1, 3
<i>Plagiochila satoi</i>	1, 3
<i>Plagiochila semidecurrens</i> ¹	1, 3
<i>Pleuroziopsis ruthenica</i>	1, 3
<i>Ptilidium californicum</i> , In Washington and Oregon ²	1, 2, PB
<i>Radula brunnea</i> ¹	1, 3
<i>Scouleria marginata</i> ¹	4
<i>Ulota megalospora</i>	PB
MOLLUSKS	
<i>Prophysaon coeruleum</i> , In Oregon ²	1, 2
<i>Prophysaon dubium</i>	1, 2
VASCULAR PLANTS	
<i>Allotropa virgata</i>	1, 2
<i>Botrychium minganense</i> , In Washington ²	1, 2

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Table 1-2. Species Removed from Survey and Manage, Protection Buffers, and Protect From Grazing in All or Part of Their Range (January 2001).	
TAXA GROUP <i>Species</i>	1994 NFP Category
VASCULAR PLANTS (continued)	
<i>Clintonia andrewsiana</i>	1, 2
<i>Galium kamtschaticum</i> , WA Western Cascades Physiographic Province, north of Snoqualmie Pass ²	1, 2
<i>Pedicularis howellii</i> ¹	1, 2, PG
<i>Scoliopus bigelovii</i>	1, 2
<p>¹ These species are already on, or are currently being considered for, the Agencies' special status species programs. Known sites for these species will be managed until their disposition is clarified in the special status species consideration.</p> <p>² These species are removed from only part of their range in the Northwest Forest Plan Area.</p> <p><u>Note:</u> Where taxa has two names, first name is current accepted name and second one in parenthesis is name used in Northwest Forest Plan (Table C-3).</p> <p><u>Abbreviations:</u> NFP = Northwest Forest Plan PB = Protection Buffer PG = Protect From Grazing</p>	

Exhibit A - Criteria for Identifying Species Closely Associated With Late-Successional and Old-Growth Forests

The Forest Ecosystem Management Assessment Team (FEMAT) identified more than 1,000 species as being closely associated with late-successional forests on federal lands. The criteria listed below are adapted from the FEMAT report, with minor edits to make it applicable to the November 2000 Survey and Manage SEIS. A species is considered to be closely associated with late-successional and old-growth forests if it met at least one of the following criteria:

Criterion 1:

The species is significantly more abundant in late-successional and old-growth forest than in young forest, in any part of its range. (For species originally on Survey and Manage in 1994, this was based on field study or collective professional judgment of the FEMAT. For decisions made in the future, this is based on field study, occurrence records, or other information that satisfies the collective professional judgement of the panel doing final placement of species in the Species Review Process. In the absence of new information, the panel will defer to the FEMAT judgement regarding association with late-successional forests.)

Criterion 2:

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. (For species originally on Survey and Manage in 1994, this was based on field study or collective professional judgment of the FEMAT. For decisions made in the future, this is based on field study, occurrence records, or other information that satisfies the collective professional judgement of the panel doing final placement of species in the Species Review Process. In the absence of new information, the panel will defer to the FEMAT judgement regarding association with late-successional forests.)

Criterion 3:

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.

Criterion 4:

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 Species Review Process suspects, that it is associated with late-successional and old-growth forest.

Exhibit B - The Species Review Process - 1999 and 2000

The goal of the Species Review Process was to evaluate the latest information about taxa in the Survey and Manage and Protect from Grazing Standards and Guidelines and some of the taxa in the Protection Buffer Standards and Guidelines of the Northwest Forest Plan and to use this information to propose changes to management for these taxa, as appropriate. This review process was done pursuant to the Survey and Manage Standards and Guidelines stating "...changes could include changing the schedule, moving species from one survey strategy to another, or dropping this mitigation requirement for any species whose status is determined to be more secure than originally projected." (Northwest Forest Plan ROD, page C-6.) No provision for adding taxa to the Survey and Manage Standards and Guidelines was suggested or specified in the 1994 Northwest Forest Plan direction. Therefore, no information for adding new taxa was sought or considered during this iteration of the process.

The Species Review Process built on the information and process conducted by the Forest Ecosystem Management Assessment Team (FEMAT) (USDA et al. 1993), the information presented in the Final Supplemental Environmental Impact Statement (Final SEIS) for adoption of the Northwest Forest Plan, and the earlier Scientific Analysis Team (SAT) report (Thomas et al. 1993). This analysis process did not repeat the FEMAT and SEIS analysis processes. Rather, the process examined whether new information or understanding about the species was sufficient to warrant proposing changes in the status of taxa under the Survey and Manage Standards and Guidelines. The process also was extended to include most Protection Buffer and Protect from Grazing species, which are being considered in the SEIS for inclusion in the Survey and Manage Standards and Guidelines.

The Species Review Process was conducted twice during SEIS development, prior to release of the Draft SEIS and between the Draft SEIS and Final SEIS to include new information gathered by the Agencies, including through public comment. The basic steps of the process remained the same, although there were slight differences due to changes in the information available during the second process.

Species Review Process - 1999

The Species Review Process was initially conducted between December 1998 and February 1999 and consisted of three sequential analysis steps:

- Step 1: A filter to determine whether there was substantial new information or other reasons for additional review.
- Step 2: A review of current information on the taxa and the Northwest Forest Plan with reference to future persistence and habitat availability.
- Step 3: Use of the review and other available information to propose changes to the treatment of the taxon within a proposed alternative in the Survey and Manage SEIS.

Each of the three steps is described below.

Step 1 - Systematic Filter to Determine Level of New Information

The purpose of this step was to separate the taxa for which there was substantial new information, questions as to their presence in the Northwest Forest Plan area, or specific concerns that warranted revisiting the FEMAT and SAT analysis results. Most Protection Buffer species were also identified for additional consideration. Panels of one to three taxa specialists were convened for each taxa group to examine and consider the information available on each taxon.

Panel members were provided with all available information relative to the taxa and taxa group from historic and new sources, including the SAT report (Thomas et al. 1993), FEMAT (USDA et al. 1993), the Northwest Forest Plan Final SEIS (USDA, USDI 1994a, including Appendix J2), the Northwest Forest Plan Record of Decision (USDA, USDI 1994b), and any other interagency documents such as Management Recommendations. From the Interagency Species Management System (ISMS) database, panels were provided with taxon-specific “dot maps” that showed all point locations, with indications of those found before and after January 1993. The panels also received a tally of the number of records by taxon in three categories (records located since 1993, records located from 1980 to 1993, and records located before 1980).

Because one purpose of this step was to determine whether there was substantial new information on individual taxa since the FEMAT panels completed their review in early 1993, panel members were instructed to assume that all sites located during or after 1993 represented new information. The pre-FEMAT information was further divided into sites located before and after 1980. Sites located before 1980 were considered less likely to be extant due to timber harvest and other habitat-disturbing activities on federal and other lands.

The panel members used this information, along with their knowledge of each taxon and the taxa group, to address the following four basic questions:

1. Was the taxon known or suspected to occur within the range of the northern spotted owl?
2. Was the taxon listed as a Protection Buffer species?
3. Were there any issues or errors that might affect the status of the taxon? Examples include, but are not limited to: (a) new taxonomic information that indicates a “species” listed on Table C-3 of the Northwest Forest Plan Record of Decision (USDA, USDI 1994b) was no longer considered a species; (b) species with a FEMAT rating of 100 percent probability to Outcome A; (c) taxon with documentation in Appendix J2 of the Northwest Forest Plan Final SEIS (USDA, USDI 1994a) that persistence may not be at risk; and, (d) suspected errors in inclusion or placement in components of Table C-3.
4. Was there new information on the taxon since signing of the Northwest Forest Plan Record of Decision that warrants a review of its status as a Survey and Manage or Protection Buffer species? New information included, but was not limited to, such information as: (a) significant change in number of known sites; (b) sufficient new populations to potentially alter the status of rarity and reduce concern for persistence; (c) new habitat information that

indicates the taxon was more or less specialized than previously thought; (d) indications that a taxon may be rarer than anticipated; (e) new understanding of the effects of the Northwest Forest Plan as it has been implemented indicating that habitat protection for the taxon may differ from that anticipated during FEMAT and the Northwest Forest Plan Final SEIS; (f) increase in the known and suspected range of the taxon; and, (g) potential technical survey concerns.

Taxa not known or suspected to occur within the range of the Northwest Forest Plan (question 1), which had issues or errors that might affect their status (question 3), or with substantial new information since signing of the Northwest Forest Plan Record of Decision (question 4) were reviewed further in Step 2. All Protection Buffer species (question 2) were also reviewed further in Step 2. All information was recorded on Step 1 data sheets and stored in the individual taxon files (USDA, USDI Species Review Process 1999a). Based on this information, 187 taxa were evaluated in Step 2.

Step 2 - Review of Current Information by Taxon

The purpose of this step was to review and document all new information on the individual taxa that passed through the Step 1 process and to evaluate the effect of this information on our understanding of the taxon's distribution, habitat association, and level of concern for persistence for use in Step 3. This step was based on current information and knowledge of implementing the Northwest Forest Plan, including interagency implementation memoranda and the results of implementation monitoring.

Panels of 5 to 10 taxa specialists and other biologists were convened for each taxa group and asked to document the current state of our knowledge of each taxon's biology and habitat associations. They reviewed the FEMAT, the Northwest Forest Plan Final SEIS (Appendix J2 in USDA, USDI 1994a), and the SAT conclusions (Thomas et al. 1993). They also evaluated whether and how the new information might affect the basis for the FEMAT, the Northwest Forest Plan Final SEIS, and the SAT conclusions (that is, how our understanding of the risk factors identified in the above documents has changed). The panels were presented specific questions related to the criteria that would be used for determining placement in categories during Step 3. Questions included items such as: Is it reasonable for trained field personnel to identify the taxon in the field? Were there sufficient differences in rarity or habitat conditions to potentially warrant different levels of concern for persistence or management in major portions of the range?

Panels were provided with the data sheets, information, and point maps used in the Step 1 process. Each panel was provided with the following information from the Interagency Species Management System Database:

- A point map with records by date categories.
- Number of records by date category and precision of location.
- Number of records by land allocation and ownership.
- Information from individual records if needed, including date and observer.

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For a few taxa groups there was also limited information available on elevation, plant association, feature, and slope of sites or records.

For purposes of consistency, each panel was given a set of assumptions for various components of the Northwest Forest Plan that might affect late-successional and old-growth related taxa. These assumptions were drawn from the Northwest Forest Plan Record of Decision (USDA, USDI 1994a) and any interagency implementation memoranda for standards and guidelines that might affect the habitat of the Survey and Manage taxa. At the start of each panel session, the Species Review Coordinator met with all panel participants to review the process and Northwest Forest Plan assumptions, as well as answer any questions. Significant clarifications were added to the documentation of the process.

For each taxon, the individual taxa panels completed a worksheet containing specific questions to ensure that all potential issues were considered when evaluating the current condition of the taxa. Responses to the questions were based on a discussion of the panel, with written documentation of the information and rationale behind the response. The questions covered the following areas to provide the latest information on the individual taxa and allow evaluation of the effect of this information on our understanding of the taxon's distribution, habitat association, and level of concern for persistence:

- Additional screening questions on range relative to the Northwest Forest Plan area, late-successional/old-growth association, and taxonomic changes such as the combining of previously separate taxa into a single, now common, taxon.
- Biological information, including:
 - ▶ Rarity in terms of number of records, distribution of known sites, and range of the taxon.
 - ▶ Habitat association, amplitude, rarity, and seral stage association.
 - ▶ Effects of the Northwest Forest Plan on the taxon or habitat, including proportion of known sites and suspected habitat on federal lands, and proportion of known sites and suspected habitat in reserve land allocations.
 - ▶ Effects of Matrix Standards and Guidelines and other management requirements of the Northwest Forest Plan area.
 - ▶ Cumulative effects.
 - ▶ Other questions on survey feasibility and differences in condition across range.

Panels were asked to review the concerns and documentation contained in the FEMAT report (and SAT for Protection Buffer species) and Appendix J2 of the Northwest Forest Plan Final SEIS (USDA, USDI 1994a). The panels compared the current information to that presented in the previous documents and provided summary documentation on how the new information might change the perception of concern for persistence for each taxon (that is, how understanding of the risk factors identified in the above documents has changed).

All information from the Step 2 panels was documented on data forms, including summaries of the discussion of the panel relative to each question. All Step 2 data sheets were stored in the taxon files (USDA, USDI Species Review Panel 1999b).

Step 3 - Determination of Appropriate Management for Each Taxon

The purpose of this step was to compare the information provided by the specialists in Steps 1 and 2, Northwest Forest Plan, and FEMAT processes to a set of criteria (see below) for the different proposed Survey and Manage categories. This comparison was used to propose changes to the category for each taxon under a proposed alternative for the Survey and Manage Standards and Guidelines which became Alternative 1 in this SEIS. This could include removing taxa from the list or moving Protection Buffer and Protect from Grazing species to the Survey and Manage Standards and Guidelines, and proposing the categories in which these taxa should be placed.

A panel of seven to eight regional biological staff and managers was convened to review the information. The panel was provided with all the information from Step 1, including that from the FEMAT report, Northwest Forest Plan Final SEIS, and SAT Report. For the 187 taxa reviewed during Step 2 (those with substantial new information or other reasons for additional review), the panel was provided the worksheet and any additional information. Panel members were also provided a description of the six categories that were subsequently used to create Alternative 1 in this SEIS and criteria for placement of taxa into each category. Individual taxa specialists from the Step 2 panels were available at each session to assist with interpretation of the information, but they were not members of the Step 3 panel.

In April 1999, the panel reviewed the approximately 400 taxa included in the Survey and Manage, Protection Buffer, and Protect from Grazing Standards and Guidelines. Based on this effort, the panel either recommended removal of a taxon from the Survey and Manage Standards and Guidelines, or placement of the taxon into one of the six categories. These categories and their defining criteria were later incorporated into Alternative 1 in the SEIS. The panel reviewed the information on each taxon, compared this to the criteria for each category, and, by majority vote, proposed placing the taxon into the appropriate categories.

Criteria for Species Analysis

The following criteria and factors were used for evaluating the appropriate status and placement of the taxa within the appropriate Survey and Manage category. These criteria were refined during the initial steps of the process and all species were compared to the final draft of the criteria before completion of the process. The criteria were separated into basic criteria or category-related criteria. The Survey and Manage basic criteria must be met to qualify for consideration under the Survey and Manage Standards and Guidelines.

Survey and Manage Basic Criteria

To be considered or covered by the Survey and Manage Standards and Guidelines, taxa must meet all of the following criteria. Taxa that did not meet all of these criteria were proposed for removal from the Survey and Manage list.

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1. The taxon 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. *Taxa known from historic records within the boundary of the Northwest Forest Plan area were considered to occur within the boundaries, regardless of whether the historic sites were known to be extant or not.*
2. Taxa must meet the criteria for being closely associated with late-successional or old-growth forest, using the criteria of the Northwest Forest Plan Final SEIS (USDA, USDI 1994a), as described in Appendix E of this SEIS.
3. The reserve system and other standards and guidelines of the Northwest Forest Plan, other than the Survey and Manage Standards and Guidelines, do not appear to provide for reasonable assurance of the taxon's persistence. *This generally meant that habitat or habitat categories needed for the persistence of the taxon were not considered to be adequately provided for by the Northwest Forest Plan land allocations, standards and guidelines (other than Survey and Manage Standards and Guidelines), or the underlying BLM Resource Management Plans or National Forest Land and Resource Management Plans. Persistence, in this context, meant at a level of assurance intended in the 1994 Northwest Forest Plan.*

Category Criteria

For each taxon meeting the Survey and Manage basic criteria, the following criteria and information were used to place the taxon in the appropriate categories of Alternative 1 and, subsequently, Alternatives 2 and 3. (See Tables F-1 and F-2 for placement of species in Alternative 1 using the species review process described in this Appendix.) Past inventory efforts have varied widely between taxa groups and geographic locations, so the significance of population numbers and other information was viewed in that context. A low number of sites for taxa that has been well inventoried, for example, may be more indicative of rarity than the same number of sites for taxa for which there have been limited searches. Of the taxa groups covered under the Survey and Manage Standards and Guidelines, vertebrates and vascular plants have had the greatest level of interest and inventory prior to the Northwest Forest Plan, especially those taxa on the Agencies' special status species lists. However, mollusks and bryophytes received the least attention on federally managed lands prior to the Northwest Forest Plan, and therefore, higher numbers of sites of vertebrates and vascular plants may reflect, in part, greater survey effort.

In most cases, the criteria and factors for each category were not mutually exclusive, but rather served as indicators of the appropriate category for the taxon. If a taxon met criteria for more than one category equally well or to be intermediate between two categories, the more conservative (or protective) category was applied. Factors for determining whether a taxon was rare, or whether all sites were likely to be needed to provide a reasonable assurance of persistence, did not include numerical or absolute cutoffs, but rather were treated as comparative values. At the extremes, this does not pose any difficulty (e.g., two likely-extant federal sites were definitely rare). Intermediate values required consideration of the history of inventory for the taxon and other factors, and values for the number of likely-extant sites that indicate low numbers for some taxa may equally represent moderate to high numbers for other taxa.

Category A (Rare, Pre-Disturbance Surveys Practical)

Objective: Manage all known sites and minimize inadvertent loss of undiscovered sites.

Criteria for including a species in Category A involved factors related to reaching the following four primary conclusions:

1. There was a high concern for persistence.
2. The species occurred rarely and was poorly distributed within its range in the Northwest Forest Plan area.
3. All known sites or population areas were likely to be necessary to provide reasonable assurance of the taxon's persistence.
4. Pre-disturbance surveys were practical.

Information used to determine if there was a high concern for persistence and all sites were likely necessary to provide reasonable assurance of the taxon's persistence included factors such as:

- The low number of likely-extant sites/records on federal lands indicates rarity. *This requires adjusting the number of database records. Records may be lower than expected because of chronic under-reporting of common taxon or greater than the actual number of sites due to multiple database records of individual sites. Sites recorded over two decades ago may no longer be extant, especially in highly developed or quickly developing areas such as the Puget Sound.*
- Taxon is poorly distributed within the taxon's range or habitat. *Uneven pattern of distribution relative to potential habitat indicates that other factors may be limiting the distribution and occurrence of the taxon.*
- There is a limited number of individuals per site, indicating that individual sites were considered to be less secure.
- The taxon has highly specialized habitat requirements (narrow ecological amplitude), limiting the habitat available to the taxon and reducing the likelihood that many new sites will be located.
- Microsite habitat is limited, reducing the likelihood that many new sites will be located.
- Dispersal capability is limited relative to federal habitat, resulting in potential for individual sites/populations to be isolated.
- Reproduction and/or life history characteristics provide additional risk factors to maintaining existing and future populations. *This may include late age of maturity, low reproductive rates, or low survival rates that indicate a taxon may have trouble persisting at present sites or surviving bottlenecks.*
- Low number of sites in reserves and/or low likelihood of sites or habitat in reserves.
- Habitat fragmentation that may lead to genetic isolation.
- Factors beyond management of the Northwest Forest Plan affect persistence, but special management under the Northwest Forest Plan will help persistence.
- Declining habitat trend.

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Surveys prior to initiation of habitat disturbance were considered “practical” if all of the following factors applied:

- The taxon appears annually or predictably and produces identifying structures or the critical identification characteristics are visible for an extended 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 risks.
- Surveys can be completed in two field seasons (approximately 7-18 months). *Therefore, surveys can be completed during a normal project development and planning process.*
- Credible survey methods for the taxon are known or can be developed within a reasonable time period (approximately 1 year).

Category B (Rare, Pre-Disturbance Surveys Not Practical)

Objective: Manage all known sites and minimize inadvertent loss of undiscovered sites.

Criteria for including a taxon in Category B involved factors related to reaching the following four primary conclusions:

1. There was a high concern for persistence.
2. The taxon occurred rarely and was poorly distributed within its range in the Northwest Forest Plan area.
3. All known sites or population areas were likely to be necessary to provide reasonable assurance of the taxon’s persistence.
4. Pre-disturbance surveys were not practical.

Surveys prior to initiation of habitat disturbance were not considered “practical” if any of the following factors applied:

- The taxon does not, annually or predictably, produce identifying structures or the critical identification characteristics are visible during only a very short or unpredictable time period. *Therefore, targeting surveys to correspond with the appropriate timing when the taxon can be identified is highly impractical.*
- The taxon is so minuscule or cryptic as to be barely visible.
- The taxon can only be authoritatively identified by a few experts or the number of available experts is so limited that it is 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 cannot be readily distinguished in the field or needs more than simple laboratory or office examination to confirm its identification.
- Surveys require unacceptable safety risks.
- Surveys cannot be completed in two field seasons (approximately 7-18 months). *Therefore, surveys cannot be completed during a normal project development and planning process.*
- Credible survey methods for the taxon are not known or cannot be developed within a reasonable time period (approximately 1 year).

Category C (Uncommon, Pre-Disturbance Surveys Practical)

Objective: Identify and manage high-priority sites to provide for reasonable assurance of the taxon's persistence. Until high-priority sites can be determined, manage all known sites.

Criteria for including a taxon in Category C involved factors related to reaching the following four primary conclusions:

1. There was not a high concern for persistence.
2. It was likely that not all known sites or population throughout the taxon's range in the Northwest Forest Plan area were necessary for reasonable assurance of persistence of the taxon.
3. The taxon was uncommon (as opposed to rare).
4. Pre-disturbance surveys were practical.

Information used to determine if there was a moderate concern for persistence and not all sites were likely necessary to provide reasonable assurance of the taxon's persistence included factors such as:

- A higher number of likely-extant sites/records does not indicate rarity of the taxon. *This requires adjusting the number of database records. Records may be lower than expected because of chronic under-reporting of common taxon or greater than the actual number of sites due to multiple database records of individual sites. Sites recorded over two decades ago may no longer be extant, especially in highly developed or quickly developing areas such as the Puget Sound.*
- The number of individuals per site does not indicate that many known sites are not secure. *There may be a low to high number of individuals per site, but populations are not consistently low.*
- There is a less restricted distribution pattern relative to range or potential habitat.
- There is a moderate-to-broad ecological amplitude, such that the habitat available to the taxon is more widespread and the likelihood of finding new sites is not reduced.
- There is a moderate-to-high likelihood of sites in reserves.
- Dispersal capability is not substantially limited relative to federal habitat, reducing the potential for individual sites/populations to be isolated.
- Reproduction and/or life history characteristics do not provide additional risk factors to maintaining existing and future populations. *The taxon does not exhibit characteristics, such*

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as late age of maturity, low reproductive rates, or low survival rates that indicate a taxon may have trouble persisting at present sites or surviving bottlenecks.

Surveys prior to initiation of habitat disturbance were considered “practical” if all of the factors described in Category A applied.

Category D (Uncommon, Pre-Disturbance Surveys Not Practical or Not Necessary)

Objective: Identify and manage high-priority sites to provide for a reasonable assurance of the taxon’s persistence. Until high-priority sites can be determined, manage all known sites.

Criteria for including a taxon in Category D involved factors related to reaching the following four primary conclusions.

1. There was not a high concern for persistence.
2. It was likely that not all known sites or population throughout the taxon’s range in the Northwest Forest Plan area were necessary for reasonable assurance of persistence of the taxon.
3. The taxon was uncommon (as opposed to rare).
4. Surveys were not practical or not necessary. *That is, surveys of suitable habitat across the landscape were likely to be more effective at finding sites needed for long-term persistence than focusing in areas proposed for projects.*

Information used to determine if there was a moderate concern for persistence and not all sites were likely necessary to provide reasonable assurance of the taxon’s persistence include the same factors as Category C.

Surveys prior to initiation of habitat disturbance were not considered “practical” if any of the factors described in Category B applied.

Category E (Rare, Status Undetermined)

Objective: Manage all known sites while determining if the taxon meets the basic criteria for Survey and Manage and, if so, to which category it should be assigned.

Criteria for including a taxon in Category E involved factors related to reaching the following two primary conclusions.

1. The number of known sites indicated the taxon was rare.
2. Information was insufficient to determine whether Survey and Manage basic criteria were met, or to determine what management was needed for a reasonable assurance of the taxon’s persistence.

Information used to determine that the taxon was rare primarily included the number of likely-extant sites/records and survey information on federally managed lands. *This requires adjusting the number of database records. Records may be lower than expected because of chronic under-reporting of common taxon or greater than the actual number of sites due to multiple database records of individual sites. Sites recorded over two decades ago may no longer be extant, especially in highly developed or quickly developing areas such as the Puget Sound.*

Factors used to reach a conclusion that information was insufficient to determine whether Survey and Manage basic criteria were met or to determine what management was needed for a reasonable assurance of the taxon's persistence included:

- Significant questions remain as to whether the taxon meets the basic criteria for Survey and Manage (i.e., the taxon may not likely occur within the Northwest Forest Plan area, or may not be closely associated with late-successional or old-growth forest using the criteria in Northwest Forest Plan Final SEIS (USDA, USDI 1994a) as described in Appendix E of this SEIS.
- Information is insufficient to determine assignment of the taxon in a category.

Category F (Uncommon or Concern for Persistence Unknown, Status Undetermined)

Objective: Determine if the taxon meets the basic criteria for Survey and Manage, and if so, to which category it should be assigned.

Criteria for including a taxon in Category F involved factors related to reaching the following two primary conclusions.

1. The total number of sites indicated that the taxon was uncommon, rather than rare.
2. Information was insufficient to determine whether Survey and Manage basic criteria were met, or to determine what management was needed for a reasonable assurance of the taxon's persistence.

Information used to determine if the species was uncommon (but not rare) included primarily a moderate-to-higher number of likely-extant sites/records. *This requires adjusting the number of database records. Records may be lower than expected because of chronic under-reporting of common taxon or greater than the actual number of sites due to multiple database records of individual sites. Sites recorded over two decades ago may no longer be extant, especially in highly developed or quickly developing areas such as the Puget Sound.*

Factors used to reach a conclusion that information was insufficient to determine whether Survey and Manage basic criteria were met or to determine what management was needed for a reasonable assurance of the taxon's persistence included:

- Significant questions remain as to whether the taxon meets the basic criteria for inclusion in Survey and Manage (i.e., the taxon may not likely occur within the Northwest Forest Plan area,

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or may not be closely associated with late-successional or old-growth forest using the criteria from the Northwest Forest Plan Final SEIS (USDA, USDI 1994a) as described in Appendix E of this SEIS.

- Information is insufficient to determine assignment of the taxon in a category.

Species Review Process - 2000

Based on new information collected by the Agencies since January 1999, including information from public comments to the Draft SEIS, the Species Review Process was again conducted in February and March 2000. The overall goal of this process was to review the placement of species in the Survey and Manage Draft SEIS. Only species that met one of the following criteria were reviewed; the remainder were considered to be correctly placed in the 1999 Species Review Process.

1. There was significant new information that might change the concerns for, or placement of, a species.
2. The 1999 Step 3 panel was significantly divided on the placement of the species.
3. The species was identified as a potential outlier in a consistency review of the placement of the species in the Draft SEIS.

The process utilized in the Draft SEIS, with minor differences due to changes in the information available to the panels, was also utilized in 2000. The process consisted of three sequential analysis steps:

- Step 1: A filter to determine whether there was substantial new information or other reasons for additional review.
- Step 2: A review of current information on the taxa and the Northwest Forest Plan with reference to future persistence and habitat availability.
- Step 3: Use of the review and other available information to propose changes to the treatment of the taxon within a proposed alternative in the Survey and Manage SEIS.

Step 1 - Systematic Filter to Determine Level of New Information

The purpose of this step was to separate the taxa for which there was substantial new information since the previous Species Review Process (described above) that would warrant revisiting the results of that process. Panels of one to several taxa specialists were asked to examine the latest information available on the species.

Panel members were provided with a list of species with new locations in the ISMS database. New locations were defined as data entered since October 10, 1998 (the last date of data entry for the previous Species Review Process). Two taxon-specific “dot maps” were provided that showed all point locations known at the time of the previous process (entered into the ISMS database before October 10, 1998) and all locations entered since the previous process, with indications of those found before and after January 1993. The panels received two tally sheets of the number of records

by taxon in three categories (records located since 1993, records located from 1980 to 1993, and records located before 1980). These were also split by locations known at the time of the previous process (entered into the ISMS database before October 10, 1998) and locations entered since the previous process. For this iteration of the process, many of the duplicate records were removed from the database, so the number of records used in this Species Review Process more closely represents actual unique locations on the ground. Panels were also provided with a complete set of the information available during the 1999 Species Review Process, including any panel notes.

The panels were asked to review all species with new ISMS records entered since October 10, 1998, as well as any species for which they were aware of new information that might affect the rarity, survey practicality, presence in the Northwest Forest Plan area, or late-successional/old-growth forest association. Panel members used this information, along with their knowledge of each taxon and the taxa group, to address the following questions:

1. Had there been any change in knowledge since the last Species Review Process (1999), as to whether this species occurs or is likely to occur in the Northwest Forest Plan area?
2. Had there been any change in knowledge since the last Species Review Process (1999), as to whether this species is closely associated with late-successional or old-growth forests (using Draft SEIS definition)?
3. Had there been any change in knowledge since the last Species Review Process (1999), as to the practicality of pre-disturbance surveys?
4. Was there new information, or changes in knowledge or understanding, since the last Species Review Process (1999), that warrants additional review of this species' base information in Step 2? This included, but was not limited to: (a) substantial increase or decrease in the number of likely-extant Federal records/sites; (b) substantial change in understanding of habitat association of species; (c) substantial increase or decrease in the suspected range of the species; (d) substantial change in understanding of distribution of the species within its range; (e) substantial change in understanding of the rarity of the species; (f) substantial new understanding of how the Northwest Forest Plan affects the species; and, (g) substantial new taxonomic information indicating that the "species" on Table 2-2 of the Draft SEIS is no longer considered a separate taxonomic entity, or that previously separate taxonomic entities have been combined, such that the range, distribution, or populations have substantially changed.

Any positive responses were compared to the reasons for placement of the species on Table F-1 of the Draft SEIS. If the new information potentially affected the reasons for its placement, or would indicate another placement was more appropriate, the species was forwarded to Step 2.

Step 2 - Review of Current Information by Taxon

The purpose of this step was to review and document substantial new information on the individual taxa and evaluate the effect of this information on our understanding of the taxon's distribution,

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habitat association, and level of concern for persistence under the Northwest Forest Plan for use in Step 3.

As in the 1999 Species Review Process, panels of taxa specialists and other biologists were convened for each taxa group and asked to document the current state of our knowledge of each taxon's biology and habitat associations. They reviewed all of the information available on the species, including responses on any Step 2 worksheets from the 1999 Species Review Process, in light of the most recent information on the species. Only species with substantial new information (as determined from the Step 1 process) were reviewed. The panels were asked to review and update the information, conclusions, and discussion for all portions of the 1999 Step 2 panel notes affected by new information. For those species that do not have Step 2 panel notes (those previously determined to have no significant new information since FEMAT), the Step 2 panel completed notes as described in the 1999 Species Review Process.

Step 3 - Determination of Appropriate Management for Each Taxon

The purpose of this step was to compare the information provided by the specialists in Steps 1 and 2, the 1999 Species Review Process, Northwest Forest Plan, and FEMAT processes to a set of criteria for the different proposed Survey and Manage categories. The comparison was used to propose changes to the category for each taxon under a proposed alternative for the Survey and Manage Standards and Guidelines. The criteria for this process were those listed for each category in Chapter 2 of this SEIS, and are generally the same as the ones used in the previous Species Review Process as described above.

A panel of six regional biological staff and managers was convened to review the information. The panel was provided with all the information from the 1999 Species Review Process. For the taxa reviewed by the 2000 Step 2 panels (those with substantial new information or other reasons for additional review), the panel was provided the revised or new Step 2 panel notes. Individual taxa specialists from the Step 2 panels were available at each session to assist with interpretation of the information, but they were not members of the Step 3 panel.

In March 2000, the Step 3 panel reviewed all taxa that met one of the three criteria described at the beginning of the Species Review Process - 2000 section. These include significant new information that might change the concerns for or placement of a species, significant division on placement of the species in the 1999 Species Review Process, or questions concerning consistency of the placement of the species in the Draft SEIS. The panel reviewed the information on each taxon, compared this to the criteria for each category, and, by majority vote, proposed placing the taxon into the appropriate categories.

NOTE: The primary reasons for placing each taxon in the category were recorded in a summary table as Tables F-1 and F-2 in the November 2000 Survey and Manage Final SEIS. These tables could provide future Species Review Panels with "starting point," and serve as an example for displaying information about future category changes to be displayed in the Annual Report.

Definition of a species "site": The criteria for placement of species include evaluation of the general number of likely-extant sites on federal lands. To provide a consistent evaluation of sites within and across taxa groups, a definition of "site" was developed for this process, and a method to evaluate whether a site was "likely extant" was developed. Sites were generally defined as non-duplicative records from the ISMS database with the following corrections.

For a variety of reasons relative to site management and the species biology, the definition of a "site" or record for entry into the ISMS database varied by taxa group. The most striking example was for terrestrial mollusks. For these species, a site was defined as all locations within 30 feet of each other, so individual records in the ISMS database could be as close together as 31 feet. For other species, the distance between locations to define sites was 100 meters. For locally-abundant mollusks, this could result in a two to ten-fold increase in the number of sites recorded in ISMS when compared to other taxa with similar distribution and abundance. Therefore, for locally-abundant mollusks, the number of records in ISMS was divided by the appropriate factor, as provided by the Step 2 panel or taxa experts, prior to the determination of the number of likely-extant sites on federal lands. The number of sites depicted on Table 3&4-4 in the Draft SEIS do not reflect this method of site determination and, therefore, are often higher than the numbers used in this Species Review Process. Additionally, Table 3&4-4 was not reproduced in the Final SEIS. Table F-2 in this appendix includes site information based on this method for site determination.

The following method was used to evaluate the number of likely-extant sites in a consistent manner that could be compared within or across taxa groups. For some species, many of the known sites are historic, having been initially located 10 to 100 years ago, and many have not been visited recently to determine if the species is still present on the site. The most recent visit to a site was used as the best indicator of recent presence. Most sites on which a species was located on or after January 1993 were assumed to be still extant. Little habitat disturbance occurred between January 1993 and the implementation of the Northwest Forest Plan. Most species required known site management under the Northwest Forest Plan, so most of these sites would have received protection under the Northwest Forest Plan. Therefore, the number of federal sites located since January 1993 was considered to approximate the number of likely extant sites on federal lands.

The number of federal sites located or confirmed during or after January 1993, adjusted for differences in the site definition, were used to determine the general level of likely-extant sites (e.g., low, moderate, high) on federal lands. The actual thresholds for these general levels varied between, and sometimes within, taxa groups, based on the history of survey effort and difficulty of locating and identifying species. A higher number of sites is expected for even rare species that have been surveyed prior to projects for the past several years than for species that have had limited survey efforts or which are difficult for even experts to locate and identify.

EXHIBIT C - Glossary

The following glossary is adapted from the November 2000 Survey and Manage FSEIS glossary.

Acre - A land area measurement based on horizontal plane; 43,560 square feet; 1/640th of a square mile; approximately 4/10ths of a hectare; if square, nearly 209 feet on a side.

Adaptive management - A continuing process of action-based planning, monitoring, researching, evaluating, and adjusting with the objective of improving implementation and achieving the goals of the standards and guidelines (USDA, USDI 1994a).

Alternative - One of several policies, plans, or projects proposed for making decisions (USDA, USDI 1994a).

Amphibians - Cold-blooded vertebrates, including frogs, toads, salamanders, and newts, having four limbs and glandular skin, tied to moist or aquatic habitats for all or at least part of their life cycle.

Arthropods - Invertebrates belonging to the largest animal phylum (more than 800,000 species) including crustaceans, insects, centipedes, and arachnids. Characterized by a segmented body, jointed appendages, and an exoskeleton composed of chitin (USDA, USDI 1994a).

Bryophytes - Plants of the phylum Bryophyta, including mosses, liverworts, and hornworts; characterized by the lack of true roots, stems, and leaves (USDA, USDI 1994a).

Bureau of Land Management (BLM) Administered Lands - Oregon and California Railroad lands (O&C), Public Domain (PD), Coos Bay Wagon Road (CBWR), acquired lands, and split estate (federal minerals).

Category - Groupings of species by relative rarity, practicality of pre-disturbance surveys, and information status. Management direction is generally the same for all species within a category and differs between categories.

Cavity nester - Wildlife species, most frequently birds, that require cavities (holes) in trees for nesting and reproduction (USDA, USDI 1994a).

Closely associated species - A species is designated as “closely associated” with a forest successional stage if the species is found to be significantly more abundant in that forest successional stage compared to the other successional stages, or if it is known to occur almost exclusively in that successional stage, or if it uses habitat components usually produced at that stage (USDA, USDI 1994a). See Exhibit A of these standards and guidelines.

Coarse woody debris - Portion of a tree that has fallen or been cut and left in the woods. Usually refers to pieces at least 20 inches in diameter (USDA, USDI 1994a).

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Component - In the 1994 Northwest Forest Plan version of the Survey and Manage Standards and Guidelines, components are the specific strategies under which species are surveyed and known sites are managed to assure species persistence. Table C-3 on pages C-49 through C-61 of the Northwest Forest Plan Record of Decision (USDA, USDI 1994b), identifies which components apply to each species covered by the Survey and Manage Standards and Guidelines. Synonymous with category.

Connectivity - A measure of the extent to which conditions among late-successional and old-growth forest areas provide habitat for breeding, feeding, dispersal, and movement of late-successional old-growth associated wildlife and fish species. Also see Late-Successional/Old-Growth Forest (USDA USDI 1994a).

Ecological amplitude - The breadth of the biological and environmental requirements of the species (such as temperature, moisture regimes, soil types, hosts, and stand ages).

Ecosystem approach - A strategy or plan to manage ecosystems to provide for all associated organisms, as opposed to a strategy or plan for managing individual species.

Effects - Effects, impacts, and consequences, as used in these standards and guidelines, are synonymous. Effects may be direct, indirect, or cumulative and may fall in one of these categories: aesthetic, historic, cultural, economic, social, health, or ecological (such as effects on natural resources and on the components, structures, and functioning of affected ecosystems) (USDA USDI 1994a).

Endemic or endemism - Unique to a specific locality or the condition of being unique to a specific locality.

Endangered Species Act (ESA) - A law passed in 1973 to conserve species of wildlife and plants determined by the Director of the U.S. Fish and Wildlife Service or the National Marine Fisheries Service to be endangered or threatened with extinction in all or a significant portion of its range. Among other measures, ESA requires all federal agencies to conserve these species and consult with the U.S. Fish and Wildlife Service or National Marine Fisheries Service on federal actions that may affect these species or their designated critical habitat.

Environmental analysis - An analysis of alternative actions and their predictable short-term and long-term environmental effects, incorporating physical, biological, economic, and social considerations (USDA, USDI 1994a).

Environmental Assessment (EA) - A systematic analysis of site-specific activities used to determine whether such activities would have a significant effect on the quality of the human environment, whether a formal environmental impact statement is required, and also to aid agency compliance with the National Environmental Policy Act when no environmental impact statement is necessary (USDA, USDI 1994a).

Environmental Impact Statement (EIS) - A statement of the environmental effects of a proposed action and alternatives to it. It is required for major federal actions under Section 102 of the National Environmental Policy Act (NEPA), and released to the public and other agencies for comment and review. It is a formal document that must follow the requirements of NEPA, the CEQ guidelines, and directives of the agency responsible for the project proposal.

Equivalent-effort surveys - Pre-disturbance surveys for species whose characteristics, such as small size or irregular fruiting, prevent it from being consistently located during site-specific surveys.

Extant - Still present in a specific locality.

Feasibility (of surveys) - See “Practicality (of surveys).”

Fire management plan - A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans, and prevention plans (USDA, USDI 1998).

Forest Ecosystem Management Assessment Team (FEMAT) - An interagency, interdisciplinary team of scientists, economists, and sociologists led by Dr. Jack Ward Thomas and chartered to review proposals for management of federal forests within the range of the northern spotted owl. The team produced a report assessing ten options in detail, which were used as a basis for developing the Northwest Forest Plan (also described in glossary).

Forest land - Land that is now, or is capable of becoming, at least 10 percent stocked with trees and that has not been developed for nontimber use (USDA, USDI 1994a).

Forest types - A classification of forest land based on the composition of tree species presently forming basal area stocking or crown cover of live trees (USDA, USDI 1994a).

Fragmentation - Process of reducing size and connectivity of stands that compose a forest (USDA, USDI 1994a).

Fungi - Saprophytic and parasitic spore-producing organisms usually classified as plants that lack chlorophyll and include molds, rusts, mildews, smuts, mushrooms, and yeasts.

Geographical distribution - The physical distribution of a species as described at multiple scales, including the overall range within a landscape of interest and the local distribution within its overall range.

Ground-disturbing activity - See “habitat-disturbing activity.”

Habitat - Place or environment where a plant or animal naturally or normally lives and grows.

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Habitat for surveys - Habitat specific to the species being surveyed; generally described in Survey Protocols or Management Recommendations.

Habitat-disturbing activity - Activities with disturbances having a likely substantial negative impact on the species habitat, its life cycle, microclimate, or life support requirements. See additional detail in the standards and guidelines.

Hibernacula - A case or covering protecting all or part of an animal or plant from extreme cold. A winter shelter for plants or dormant animals.

High-priority sites - A site or group of sites deemed necessary for species persistence. The high-priority sites may be identified as specific locations, sites meeting specific criteria, or as a distribution of populations or sites over a geographic area that may change over time. High-priority sites are designated through the Management Recommendations for the species. High-priority sites are generally a subset of known sites; however, in some cases, all known sites may be determined to be high-priority sites. Management of high-priority sites is necessary to ensure species persistence.

Interagency Species Management System (ISMS) - A Agency database system that contains information about Survey and Manage species in the Northwest Forest Plan area, including known sites, species locations, and habitats, etc.

Interdisciplinary team (ID team) - A group of individuals with varying areas of specialty assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad enough to adequately analyze the problem and propose action.

Issue - A point, matter, or question of public discussion or interest to be addressed or decided through the planning process.

Known site - Historic and current location of a species reported by a credible source, available to field offices, and that does not require additional species verification or survey by the Agency to locate the species. Known sites includes those known prior to the signing of the Northwest Forest Plan Record of Decision (USDA, USDI 1994b), as well as sites located in the future. Known sites can be based on any documented and credible source (such as herbaria/museum records, published documents, Agency records, species expert records, and documented public information). Historic locations where it can be demonstrated that the species and its habitat no longer occur do not have to be considered known sites. A credible source is a professional or amateur person who has academic training and/or demonstrated expertise in identification of the taxon of interest sufficient for the Agency to accept the identification as correct. These can include Agency staff and private individuals.

The known site identification should be precise enough to locate the species by geographic coordinates, maps, or descriptions sufficient to design specific management actions or to be located by other individuals. Also see “site” for description of size or components.

Land management - Intentional process of planning, organizing, programming, coordinating, directing, and controlling land use actions.

Land allocation - Commitment of a given area of land or a resource to one or more specific uses (such as campgrounds or Wilderness). In the Northwest Forest Plan, one of the seven allocations of Congressionally Withdrawn Areas, Late-Successional Reserves, Adaptive Management Areas, Managed Late-Successional Areas, Administratively Withdrawn Areas, Riparian Reserves, or Matrix.

Landscape - A heterogeneous land area with interacting ecosystems repeated in similar form throughout (USDA, USDI 1994a).

Late-successional forests - Forest stands consisting of trees, structural attributes, supporting biological communities, and processes associated with old-growth and/or mature forests (USDA, USDI 1994a). Forest seral stages that include mature and old-growth age classes (USDA, USDI 1994a). Age is not necessarily a defining characteristic but has been used as a proxy or indicator in some usages. Minimum ages are typically 80 to 130 years, more or less, depending on the site quality, species, rate of stand development, and other factors.

Late-Successional Reserves (LSR) - Land allocation under the Northwest Forest Plan with the objective to protect and enhance conditions of late-successional and old-growth forest ecosystems that serve as habitat for late-successional and old-growth forest related species, including the northern spotted owl. Limited stand management is permitted, subject to review by the Regional Ecosystem Office (USDA, USDI 1994b).

Lichens - Complex thallophytic plants comprised of an alga and a fungus growing in symbiotic association on a solid surface (such as a rock).

Line officer - In the BLM and Forest Service, the individual managers in the direct chain of command. For example, in the Forest Service, the chain runs from chief/deputy chiefs, to regional forester, to forest supervisors, to district rangers, and there is only one line officer at each “office” (although two line officers may share an office while administering different geographic areas). These line officers have the decision-making authority and responsibility assigned to their administrative level; other individuals at that unit advise and work for the line officer.

Manage (as in manage known sites) - To maintain the habitat elements needed to provide for persistence of the species at the site. Manage may range from maintaining one or more habitat components such as down logs or canopy cover, up to complete exclusion from disturbance for many acres, and may permit loss of some individuals, area, or elements not affecting continued site occupancy.

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Managed Late-Successional Areas - Land allocation under the Northwest Forest Plan; similar to Late-Successional Reserves, but identified for certain owl territories in the drier provinces where regular and frequent fire is a natural part of the ecosystem. Unmapped Managed Late-Successional Areas also result from application of some Protection Buffers (see standards and guidelines in the 1994 Northwest Forest Plan). Certain silvicultural treatments and fire hazard reduction treatments are allowed to help prevent large-scale disturbance such as fires of high intensity or severity, disease, and insect epidemics.

Management Recommendation - An interagency document that addresses how to manage known sites and that provide guidance to Agency efforts in conserving Survey and Manage species. They describe the habitat parameters that will provide for maintaining the taxon at that site. They may also identify high-priority sites for uncommon species or provide other information to support management direction. (See additional detail in the standards and guidelines.)

Management requirement - Minimum standards for resource protection, vegetation manipulation, silvicultural practices, even-aged management, riparian areas, wildlife population viability, soil and water protection, and diversity to be met in accomplishing National Forest System goals and objectives (36 CFR 219 National Forest Management Act Regulations).

Matrix - Federal lands outside of reserves, withdrawn areas, Managed Late-Successional Areas, and Adaptive Management Areas (USDA, USDI 1994a).

Mature forest - A subset of late-successional forests. Mature forests are characterized by the onset of slowed height growth, crown expansion, heavier limbs, gaps, some mortality in larger trees, and appearance of more shade-tolerant species or additional crown layers. In Douglas-fir west of the Cascades, this stage typically begins between 80 and 130 years, depending on site conditions and stand history (adapted from USDA, USDI 1994b, pp. B-2 and B-3).

Microclimate - The suite of climatic conditions measured in localized areas near the earth's surface. Microclimate variables important to habitat may include temperature, light, wind speed, and moisture.

Mitigation measures - Modifications of actions taken to: (1) avoid impacts by not taking a certain action or parts of an action; (2) minimize impacts by limiting the degree or magnitude of the action and its implementation; (3) rectify impacts by repairing, rehabilitating, or restoring the affected environment; (4) reduce or eliminate impacts over time by preservation and maintenance operations during the life of the action; or, (5) compensate for impacts by replacing or providing substitute resources or environments (USDA, USDI 1994a).

Mollusks - Invertebrate animals (such as slugs, snails, clams, or squids) that have a soft unsegmented body usually enclosed in a calcareous shell.

Monitoring - A process of collecting information to evaluate if objectives and anticipated or assumed results of a management plan are being realized or if implementation is proceeding as planned (USDA, USDI 1994a).

National Environmental Policy Act (NEPA) - An Act passed in 1969 to declare a National policy that encourages productive and enjoyable harmony between humankind and the environment, promotes efforts that prevent or eliminate damage to the environment and biosphere, stimulates the health and welfare of humanity, enriches the understanding of the ecological systems and natural resources important to the nation, and established a Council on Environmental Quality (USDA, USDI 1994a).

National Forest Management Act (NFMA) - A law passed in 1976 as an amendment to the Forest and Rangeland Renewable Resources Planning Act, requiring preparation of Forest Plans and the preparation of regulations to guide that development (USDA, USDI 1994a).

Non-vertebrate species - A species that does not have a backbone.

Northwest Forest Plan - Coordinated ecosystem management direction incorporated into land management plans for lands administered by the Bureau of Land Management and the Forest Service within the range of the northern spotted owl. In April 1993, President Clinton directed his cabinet to craft a balanced, comprehensive, and long-term policy for management of over 24 million acres of public land within the range of the northern spotted owl. A Forest Ecosystem Management Assessment Team (FEMAT) was chartered to develop a series of options. These options were modified in response to public comment and additional analysis and then analyzed in a Final Supplemental Environmental Impact Statement (USDA, USDI 1994a). A Record of Decision was signed on April 13, 1994, by the Secretaries of the Department of Agriculture and the Department of Interior to adopt *Amendments to Forest Service and Bureau of Land Management Planning Documents Within the Range of the Northern Spotted Owl* (USDA, USDI 1994b). The Record of Decision, including the *Standards and Guidelines for Management of Habitat for Late-Successional and Old-Growth Forest Related Species Within the Range of the Northern Spotted Owl* is referred to as the "Northwest Forest Plan." The Northwest Forest Plan is not a "plan" in the agency planning regulations sense; the term instead refers collectively to the 1994 amendment to existing agency unit plans or to the specific standards and guidelines for late-successional species incorporated into subsequent administrative unit plans.

Old-growth forest - An ecosystem distinguished by old trees and related structural attributes. Old growth encompasses the later stages of stand development that typically differ from earlier stages in a variety of characteristics which may include tree size, accumulations of large dead woody material, number of canopy layers, species, composition, and ecosystem function. More specific parameters applicable to various species are available in the USFS, Region 6, 1993 Interim Old Growth Definitions (USDA Forest Service Region 6, 1993). The Northwest Forest Plan SEIS and FEMAT describe old-growth forest as a forest stand usually at least 180 to 220 years old with moderate-to-high canopy closure; a multi-layered, multi-species canopy dominated by large overstory trees; high incidence of large trees, some with broken tops and other indications of old

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and decaying wood (decadence); numerous large snags; and heavy accumulations of wood, including large logs on the ground (USDA, USDI 1994a).

Outcome - A reasoned determination of a species' likely future population stability and distribution pattern, based on a comparison of the species' reference distribution to current conditions and to estimated conditions projected to occur following implementation of the standards and guidelines. The four potential outcomes that are used to inform management decisions are:

Outcome 1: Habitat (including known sites) is of sufficient quality, abundance, and distribution to allow species to stabilize in a pattern similar to reference distribution.

Outcome 2: Habitat (including known sites) is of sufficient quality, abundance, and distribution to allow species to stabilize in a pattern altered from reference distribution with some limitations on biological functions and species interactions.

Outcome 3: Habitat (including known sites) is insufficient to support stable populations of the species.

Outcome 4: Information is insufficient to determine an outcome.

See Background section of Chapter 3&4 on the November 2000 Survey and Manage FSEIS for additional detail.

Persistence (as in persistence objective for a species) - An abbreviated expression of the species management objectives for these standards and guidelines. Generally the persistence objective for vertebrates is based on the Forest Service viability provision in the regulations implementing NFMA. For non-vertebrates, it is a similar standard to the extent practicable. See "Species Persistence Objective" in these standards and guidelines for more details. Use in standards and guidelines such as "...sites not needed for persistence" includes an understood "reasonable assurance of" or "to the extent practicable."

Persistence (as in persistence at a site) - Continued occupancy by a species at a known site.

Physiographic province - A geographic area having a similar set of biophysical characteristics and processes due to effects of climate and geology that result in patterns of soils and broad-scale plant communities. Habitat patterns, wildlife distributions, and historical land use patterns may differ significantly from those of adjacent provinces (USDA, USDI 1994a) (See Figure 1 in the standards and guidelines).

Planning area - All of the lands within a federal agency's management boundary addressed in land management plans (USDA, USDI 1994a).

Practical surveys (relative to surveys prior to habitat-disturbing activities) - Surveys are practical if characteristics of the species (such as size, regular fruiting) and identifying features result in being able to reliably locate the species, if the species is present, within one or two field seasons and with a reasonable level of effort.

Characteristics determining practicality of surveys include: individual species must be of sufficient size to be detectable; the species must be readily distinguishable in the field or with no more than simple laboratory or office examination for verification of identification; the species is recognizable, annually or predictably producing identifying structures; and the surveys must not pose a health or safety risk. See additional detail in the standards and guidelines.

Pre-disturbance surveys - See “Surveys Prior to Habitat-Disturbing Activities.”

Prescribed fire - Any fire ignited by management actions to meet specific objectives. A written, approved prescribed fire plan must exist, and NEPA requirements must be met, prior to ignition. This term replaces management-ignited prescribed fire.

Prescription - Written direction for forest vegetation management, including timber harvest and regeneration activities. For fire, a document that describes the conditions (including but not limited to area, fuel moisture, and weather) under which a fire for resource benefits may be permitted to burn.

Proposive surveys - One type of landscape-scale or strategic survey, proposive surveys are focused searches conducted where taxa experts anticipate finding the target species. They are used to find sites of the rarest species, i.e. those that may not be picked up in random plots.

Protection Buffers - Standards and guidelines for specific rare and locally endemic species, and other species in the upland forest matrix, in the 1994 Northwest Forest Plan standards and guidelines.

Protection Buffer Species - Species thought to be rare and locally endemic, as well as other specific species in the upland forest matrix identified by the Scientific Analysis Team and included in the standards and guidelines of the Northwest Forest Plan. They provide protection for occupied locations of certain species that might occur outside of reserves.

Province - See “Physiographic province.”

Range of the Northern Spotted Owl - Area generally comprised of lands in western portions of Washington, Oregon, and northern California (see Province Map, Figure 1) (USDA, USDI 1994a).

Rare - A species is considered to be rare when: there are a low number of extant known sites with low numbers of individuals present at each site and populations are not well-distributed within its natural range. “Low” numbers and “not well distributed” are relative terms that must be considered in the context of other criteria such as distribution of habitat, fecundity, and so forth. See complete list of criteria under “Relative Rarity” in the standards and guidelines.

Record (as applied in the ISMS database) - A single database entry. There may be more than one record for a single location because the location was visited multiple times, the visit record was

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recorded more than once by multiple observers, or voucher specimens from the location were stored in several different locations.

Record of Decision - A document separate from, but associated with, an environmental impact statement that: states the management decision, states the reason for that decision, identifies all alternatives including the environmentally preferable and selected alternatives, and also states whether all practicable measures to avoid environmental harm from the selected alternative have been adopted, and if not, why not (USDA, USDI 1994a).

Regional Ecosystem Office (REO) - The office that provides staff work and support to facilitate decision making of the Regional Interagency Executive Committee (RIEC) and to prompt interagency issue resolution in support of implementing the Northwest Forest Plan Standards and Guidelines. The REO is also responsible for evaluating major modifications arising from the adaptive management process and coordinating the formulation and implementation of data standards. This office reports to the RIEC and is responsible for developing, evaluating, and resolving consistency and implementation issues with respect to specific topics under the Northwest Forest Plan (USDA, USDI 1994b).

Regional Interagency Executive Committee (RIEC) - This group consists of the Pacific Northwest federal agency heads of the Forest Service, Bureau of Land Management, U.S. Fish and Wildlife Service, National Marine Fisheries Service, Bureau of Indian Affairs, Environmental Protection Agency, U.S. Army Corps of Engineers, U.S. Geological Survey (Biological Resource Division), Natural Resources Conservation Service, and the National Park Service. The RIEC serves as the senior regional entity to assure prompt, coordinated, and successful implementation of the Northwest Forest Plan Standards and Guidelines.

Reserves - Congressionally Reserved Areas (such as Wilderness) and land allocations that were designated under the Northwest Forest Plan, including Late-Successional Reserves, Riparian Reserves, and Managed Late-Successional Areas. Reserves help to protect and enhance conditions of late-successional and old-growth forest ecosystems. Stand management actions are either prohibited or limited within these allocations. The likelihood of maintaining a connected viable late-successional ecosystem was found to be directly related to the amount of late-successional forest in reserve status.

Riparian Reserves - Areas along live and intermittent streams, wetlands, ponds, lakes, and unstable and potentially unstable areas where riparian-dependent resources receive primary emphasis. Riparian Reserves are important to the terrestrial ecosystem as well, serving, for example, as dispersal habitat for certain terrestrial species (USDA, USDI 1994b).

Scientific Analysis Team (SAT) Report - To address three court-identified defects in the *Final Environmental Impact Statement for Management for the Northern Spotted Owl in National Forests* (USDA 1992), the Forest Service established the Scientific Analysis Team, which included some members of the 1989-1990 Interagency Scientific Committee. These experts, in turn, conferred with additional scientists and specialists in preparing a detailed technical analysis of the

three defects, including one which the Courts identified as “the development of a plan which they know or believe will probably cause the extirpation of other native vertebrate species in the planning area.” The team published their report, entitled *Viability Assessments and Management Considerations for Species Associated With Late-Successional and Old-Growth Forests of the Pacific Northwest* in March 1993 (Thomas et al.).

Sensitive species - Those species that: (1) have appeared in the Federal Register as proposed for classification and are under consideration for official listing as endangered or threatened species; (2) are on an official state list; or, (3) are recognized by the implementing agencies as needing special management to prevent their being placed on federal or state lists (USDA, USDI 1994a).

Seral stages - The series of relatively transitory plant communities that develop during ecological succession from bare ground to the climax stage (USDA, USDI 1994a).

Site (as in occupied site) - The location where a specimen or population of the target species (taxonomic entity) was located, observed, or presumed to exist (occasionally used as a local option to pre-disturbance surveys for certain vertebrates) based on indicators described in the Survey Protocol or Management Recommendation. Also, the polygon described by connecting nearby or functionally contiguous detections at the same location.

Site (as used in manage known sites) - The occupied site plus any buffer needed to maintain the habitat parameters described in the Management Recommendation.

Snag - Any standing dead, partially dead, or defective (cull) tree measuring at least 10 inches in diameter at breast height and at least 6 feet in height. A hard snag is composed primarily of wood in advanced stages of decay and deterioration, generally not merchantable (USDA, USDI 1994a).

South range (for arthropods) - The California Coast Range, the Oregon and California Klamath, and the California Cascades Physiographic Provinces (USDA, USDI 1994a, p. J-2 37).

Species - A class of individuals having some common characteristics or qualities. In these standards and guidelines, synonymous with taxon, which may include subspecies, groups, or guilds.

Stable - A taxon that, over time, maintains population numbers, given inherent levels of population fluctuation and variability of habitats to which they are adapted. The species may become stable at a different population level than the current or (inferred) historical level.

Stand (tree stand) - An aggregation of trees occupying a specific area and sufficiently uniform in composition, age, arrangement, and condition to be distinguishable from the forest in adjoining areas (USDA, USDI 1994a).

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Standards and guidelines - The rules and limits governing actions, as well as the principles specifying the environmental conditions or levels to be achieved and maintained (USDA, USDI 1994a).

Strategic surveys - Landscape-scale surveys designed to collect information about a species, including its presence and habitat.

Strategic Survey Implementation Guide - A guide showing the known strategic survey needs for all species or species groups.

Substrate - Any object or material on which an organism grows or is attached (USDA, USDI 1994a).

Succession - A series of dynamic changes by which one group of organisms succeeds another through stages leading to a potential natural community or climax. An example is development of a series of plant communities (called seral stages) following a major disturbance (USDA, USDI 1994a).

Supplemental Environmental Impact Statement (SEIS) - As defined by the NEPA, a supplement to an existing Environmental Impact Statement is prepared when: (1) the agency makes substantial changes to the proposed action that are relevant to environmental concerns; (2) there are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; or, (3) the agency determines that the purposes of NEPA would be furthered by doing so.

Survey and Manage - Mitigation measure adopted as a standard and guideline within the Northwest Forest Plan Record of Decision and replaced with these standards and guidelines that is intended to mitigate impacts of land management efforts on those species that are closely associated with late-successional or old-growth forests whose long-term persistence is a concern. These measures apply to all land allocations and require land managers to take certain actions relative to species of plants and animals, particularly some amphibians, bryophytes, lichens, mollusks, vascular plants, fungi, and arthropods, which are rare or about which little is known. These actions include: (1) manage known sites; (2) survey prior to ground-disturbing activities; (3) conduct extensive and general regional (strategic) surveys.

Survey Protocol - Unless otherwise specified, Survey Protocols are for surveys prior to habitat-disturbing activities. These are interagency documents describing the survey techniques needed to have a reasonable chance of locating the species when it is present on the site, or needed to make an “equivalent-effort” of locating the species when it is present on the site. Survey Protocols also identify habitats needing surveys and may identify habitats or circumstances not needing surveys. Instructions for conducting strategic surveys may be prepared along with the Strategic Survey Implementation Guide and may be referred to as strategic survey protocols. See additional detail in the standards and guidelines.

Surveys Prior to Habitat-Disturbing Activities - Surveys conducted to determine if the species is present at a site proposed for habitat-disturbing activities. Includes “practical surveys” and “equivalent-effort surveys.” See additional detail in the standards and guidelines.

Taxon - A category in the scientific classification system, such as a class, family, phylum, species, subspecies, or race.

Taxonomic entity - A unique species, subspecies, or variety.

Threatened Species - Plant or animal species likely to become endangered throughout all or a significant portion of its range within the foreseeable future. A plant or animal identified and defined in accordance with the 1973 Endangered Species Act and published in the Federal Register (USDA, USDI 1994a).

Uncommon (species) - Species that does not meet the definition for rare, but where concerns for its persistence remain. See criteria under “Relative Rarity” in the standards and guidelines.

Understory - The trees and other woody species growing under the canopies of larger adjacent trees and other woody growth (USDA, USDI 1994a).

Vascular plants - Plants that contain conducting or vascular tissue. They include seed-bearing plants (flowering plants and trees) and spore-bearing plants (ferns, horsetails, and clubmosses).

Vertebrate species - A species that has a backbone or spinal column (includes fishes, amphibians, reptiles, birds, and mammals, all of which have a segmented bony or cartilaginous spinal column).

Viability - Ability of a wildlife or plant population to maintain sufficient size to persist over time in spite of normal fluctuations in numbers, usually expressed as a probability of maintaining a specific population for a specified period (USDA, USDI 1994a).

Viability Provision - A provision contained in the National Forest System Land and Resource Management Planning Regulation of 1982, pursuant to the National Forest Management Act. This provision is found in 36 CFR 219.19 and reads as follows: “Fish and wildlife habitat shall be managed to maintain viable populations of existing native and desired non-native vertebrate species in the planning area. For planning purposes, a viable population shall be regarded as one which has the estimated numbers and distribution of reproductive individuals to insure its continued existence is well distributed in the planning area. In order to insure that viable populations will be maintained, habitat must be provided to support, at least, a minimum number of reproductive individuals and that habitat must be well distributed so that those individuals can interact with others in the planning area.”

Viable population - A wildlife or plant population that contains an adequate number of reproductive individuals appropriately distributed on the planning area to ensure the long-term existence of the species (USDA, USDI 1994a).

Well distributed - Distribution 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.

Wilderness - Areas designated by Congressional action under the 1964 Wilderness Act. Wilderness is defined as undeveloped federal land retaining its primeval character and influence without permanent improvements or human habitation. Wilderness areas are protected and managed to preserve their natural conditions, which generally appear to have been affected primarily by the forces of nature with the imprint of human activity substantially unnoticeable; have outstanding opportunities for solitude or for a primitive and confined type of recreation; include at least 5,000 acres or are of sufficient size to make practical their preservation, enjoyment, and use in an unimpaired condition; and may contain features of scientific, educational, scenic, or historical value as well as ecological and geologic interest (USDA, USDI 1994a).

Wildland fire - Any non-structure fire, other than prescribed fire, that occurs in the wildland. This term encompasses fires previously called both wildfires and prescribed natural fires.

Wildland fire for resource benefits - A fire that results from natural ignition (i.e. lightning strike) and is permitted to burn because it is resulting in resource benefits, is consistent with the land and resource management plan, is consistent with the fire management plan, and is burning within prescription.

Wildland fire use - The management of naturally-ignited wildland fires to accomplish specific pre-stated resource management objectives in pre-defined geographic areas outlined in fire management plans.