Questions and Answers about the Northern Spotted Owl
Final Recovery Plan
May 14, 2008

Q: What action is the Service taking?

A: The U.S. Fish and Wildlife Service (Service) is releasing a final recovery plan for the northern spotted owl (*Strix occidentalis caurina*), a threatened species protected under the federal Endangered Species Act.

Q: What is a recovery plan?

A: Under the Endangered Species Act, the Service is required to outline the goals and objectives that must be met in order to recover an endangered species. The guiding document, called a recovery plan, is a road map on how to help species recover.

Q: Who wrote this recovery plan?

A: To advise the Service in the development of this Plan, the Service initially appointed an interagency, interdisciplinary Recovery Team. The Recovery Team was supported by an Interagency Support Team (IST) led by a Recovery Plan Project Manager. During the development of the draft recovery plan, the Recovery Team convened several panels of experts to advise them and provide information on scientific and land management issues. The Recovery Team developed the draft Recovery Plan, published in April 2007. The Service conducted four public meetings in May 2007. The Recovery Team remained in place until the close of the comment period in October 2007. With the publication of the draft Recovery Plan, the responsibilities of the Recovery Team were completed and no further action on its part was required.

The final recovery plan was written by the members of the Interagency Support Team, which consists of scientists from the U.S. Fish and Wildlife Service, the U.S. Forest Service and Bureau of Land Management.

Q: Why did the Service develop a recovery plan for the northern spotted owl now?

A: With few exceptions, the ESA requires the Service to develop recovery plans for listed species, and the northern spotted owl does not have a recovery plan.

A draft recovery plan for the northern spotted owl was originally published in 1992. The plan was not finalized due to the development of the Northwest Forest Plan, which was initiated in 1994 as the federal contribution to the recovery of the spotted owl. However, the Northwest Forest Plan addresses the needs of numerous forest-dependent species and does not define recovery criteria or recovery actions specific to the spotted owl.

The final recovery plan provides a northern spotted owl conservation strategy to assist the Forest Service and the BLM with future land-use plan revisions.

Q: How does this recovery plan relate to the Northwest Forest Plan?

A: The foundation of the recovery plan is based on the conservation principles first put forward in the 1990 report by the Interagency Scientific Committee to address conservation of the northern spotted owl These principles were then carried forward in the 1992 Draft Recovery Plan and then in the Northwest Forest Plan, published in 1994. However, the Northwest Forest Plan was created to address an entire late-successional forest ecosystem, not just the northern spotted owl. The Northwest Forest Plan identified large conservation reserves benefiting rare and little known non-listed species and amended the land and resource management plans that guide the management on each of the 19 National Forests and 7 Bureau of Land Management Districts across the range of the spotted owl.

The final recovery plan differs from the Northwest Forest Plan in that it specifically defines recovery criteria, objectives and actions for the northern spotted owl.

Q: What are the threats to northern spotted owls?

A: The recovery plan recognizes the primary threats to northern spotted owls as past and current habitat loss due to timber harvest and catastrophic fire, and competition with barred owls. The barred owl threat has only recently been fully realized.

In 1990, the spotted owl was listed as a threatened species because of widespread loss and adverse modification of suitable habitat across the owl's entire range and the inadequacy of existing regulatory mechanisms to conserve the owl. More specifically, habitat loss was a result of timber harvesting and was further exacerbated by catastrophic events such as fire, volcanic eruption and wind storms.

Q: What is the goal of the recovery plan for the northern spotted owl?

A: The ultimate goal of this recovery plan is to recover the northern spotted owl so that it no longer requires the protection of Endangered Species Act.

Q: How long will it take to recover northern spotted owls?

A: The estimated time to recover and delist the species is 30 years if all actions are implemented and effective. A longer time to delisting would be required if these assumptions are not met.

However, due to the uncertainties associated with the effects of barred owl interactions with the spotted owl and habitat changes that may occur as a result of climate change and fire, the Service intends to revisit this plan within 10 years to determine if the plan is leading the species toward recovery. Even during this relatively short period, the actions needed to address the species' decline should be revisited on a frequent basis to ensure the highest priority actions are being conducted. The Service and other implementers of this plan will have to employ an active adaptive management strategy to achieve results and focus on the most important actions for recovery.

Q: How much will it cost to recover the northern spotted owl?

A: Total cost for delisting over these 30 years is $489.2 million. However, this figure will be revisited at the end of the plan's 10-year lifespan. The cost over the next 10 years is estimated at about $169 million.

Q: What does the final recovery plan say?

A: The final recovery plan contains recommendations to guide the activities needed to accomplish the recovery objectives and criteria. It presents 34 actions that address recovery through management of the key threats, which include past and current loss of habitat due to harvest and catastrophic fire and competition with barred owls. The recovery plan also calls for the establishment of an inter-organizational Northern Spotted Owl Work Group to oversee implementation of the plan and two other working groups, one to oversee barred owl research and control and another to oversee habitat management in the arid eastern portion of the spotted owl's range, generally east of the Cascade Mountains' crest.

Q: What are the key points of the recovery plan?

A: The main elements of the final plan are: 1) A network of Managed Owl Conservation Areas (MOCAs) totaling more than 6.4 million acres of federal land west of the Cascades' crest; 2) A pioneering approach to habitat management of federal land on the dry east side that maintains northern spotted owl habitat in a fire-prone landscape; 3) Large-scale barred owl control experiments in key northern spotted owl areas; 4) Maintenance of older, complex forests on federal lands west of the Cascades' crest as an interim measure to help buffer the barred owl threat while we learn to manage it; and 5) Creation of incentives to non-federal landowners to contribute to northern spotted owl recovery through land management.

Q: How many acres of forest will be protected for the northern spotted owl?

A: Recovery plans are not regulatory documents and do not establish protected areas. Rather, the conservation blocks described in the recovery plan identify the areas the Service believes are important to achieve recovery and are essentially the areas where the Service will look to see if the recovery criteria have been met.

The plan identifies Managed Owl Conservation Areas (MOCAs) on the west side of the Cascade Mountains' crest and a landscape approach to spotted owl habitat conservation on the fire-prone eastern side of the species' range that was strongly recommended by leading spotted owl and fire experts. There are 6,361,154 acres of MOCAs identified and three entire physiographic provinces included in the landscape approach.

In these three provinces, the goal is to maintain an ecologically sustainable environment in which spotted owls can persist. Spatially dynamic spotted owl habitat patches will be identified by a work group after the plan is completed. These habitat patches are expected to move around as they are affected by natural disturbances, such as fire or insect damage. The entire area outside of the habitat

patches is to be managed to restore ecological processes and functions and to reduce the potential for significant losses by stand-replacement fires, insects and disease. All areas outside of habitat patches will be actively managed to reduce risks to spotted owl habitat, through such actions as fuels treatments and maintenance of large, fire-resistant trees.

The recovery plan's goal is to maintain 30 to 35 percent of the dry forest habitat-capable area in each eastside province for spotted owl habitat, which totals more than 900,000. Added to the acres of MOCAs, about 7.35 million acres would be managed for spotted owl habitat.

In addition, the plan looks to federal land managers to maintain older, complex forests on federal lands west of the Cascade crest to benefit spotted owls.

Q: Will all federal forests on the eastside be managed to promote owl habitat?

A: All federal forests on the east side will be managed to achieve ecological sustainability, which will include reducing the risk of fire and maintaining the important building blocks of spotted owl habitat across the area. Not all areas will be managed to promote owls at all times, as it may be more appropriate to work toward reducing the risk of fire or insect damage in a certain area at a certain time. Just managing for the promotion of owls may not be the best way to restore a landscape that has a more historically natural disturbance pattern. This approach acknowledges spotted owls will persist best in a healthy environment.

Q: Why does the plan recommend different approaches on the west side and the east side of the species' range?

A: Different approaches are recommended to address the threat of habitat loss due to natural disturbances, such as fire and insect damage, because the two sides of the spotted owl's range have different natural disturbance regimes. Simply, the drier east side has a higher natural disturbance regime than the wetter west side.

Q: How do the Managed Owl Conservation Areas compare to the reserves established by the Northwest Forest Plan?

A: The recovery plan identifies MOCAs as places where land management would be directed primarily at recovery of the northern spotted owl. The MOCAs are located exclusively on federal land (Tables C5 and C6, beginning on page 84 of the recovery plan, identify the various land use allocations and the MOCAs by state). The recovery plan outlines management actions to be taken in the MOCAs and surrounding areas, which contain or will be managed to develop habitat essential for recovery of the northern spotted owl. The MOCAs are largely overlaid on the Northwest Forest Plan's Late Successional Reserves (LSRs) and other protected areas, such as wilderness and riparian reserves. Not all LSR acres are included in MOCAs because the LSRs were created for a number of old growth species, in addition to northern spotted owls, and don't all contain the necessary habitat elements for the owl. The MOCAs contain adequate habitat to support stable and well-distributed populations of spotted owls. The recovery plan

recommends managing approximately 6.4 million acres as MOCAS. It also proposes that federal land managers maintain for the next 10 years older, complex forests on federal lands outside of MOCAs in the area generally west of the Cascades' crest as a buffer to the barred owl threat. The amount of this additional maintained habitat and the habitat managed for spotted owls in the eastside landscape approach has not yet been determined but it could total more than 1.5 million acres. There are approximately 7.4 million acres in the Forest Plan's LSRs on the east and west sides combined.

Q: How will the Service control competition with barred owls?

A: The threat from barred owls requires immediate investigation. This urgency is stressed in the recovery plan. Because much is still unknown about how interactions with barred owls affect spotted owls and how those threats can be controlled, the recovery plan proposes several actions to address the threat range-wide. A key recovery action is the formation of a Barred Owl Work Group to coordinate barred owl research among federal, state and private partners across the spotted owl's range. Given the urgency of the barred owl threat, the recovery plan calls for the immediate design and implementation of large-scale control experiments in key spotted owl areas to assess the effects of barred owl removal on spotted owl site occupancy, reproduction and survival. Further, as we attempt to understand and address this threat, the plan recommends that federal land managers maintain high-quality habitat (i.e., older, multi-layered conifer forests with large diameter trees, high amounts of canopy cover, and contain broken-topped live trees, mistletoe, cavities, large snags, and fallen trees) for the next 10 years in the western portion of the species' range (the eastern portion is already proposed for a landscape management strategy). Maintenance of these forests will support spotted owls in areas adjacent to MOCAs and will allow time to determine the competitive effects of barred owls on spotted owls and the effectiveness of barred owl control measures.

Q: What are the major differences between the final recovery plan and the draft plan?

A: Based on the extensive peer and public comments received, the final plan combines the two land management methods included in the draft plan and eliminates the habitat fitness percentages. The final plan also eliminates the draft appendix that provided a preliminary barred owl control strategy.

A key new element of the final plan is a pioneering approach to habitat management on the more natural disturbance-prone eastside forests. Based on strong recommendations from leading spotted owl and fire ecologists, this approach to addressing the threat from habitat loss does not identify static conservation blocks, like on the west side, as these areas will inevitably and unpredictably be lost to fire or insect damage. Rather, the described approach calls for maintaining shifting spotted owl habitat patches in an entire landscape that is managed to maintain the building

blocks needed for spotted owl habitat, such as large, older trees. So, as the individual habitat patches are lost to fire or insect damage, we can quickly manage the neighboring areas to develop into suitable habitat patch.

Another key new element is the recommendation that older, complex forests on federal lands west of the Cascades' crest be maintained for the next decade. Management of these lands is intended to help buffer the barred owl threat.

Q: Why were these changes made?

A: The 2007 draft went through a nearly five-month public comment period in which almost 80,000 comments were received. We contracted four anonymous peer reviews through two scientific professional societies (the Society for Conservation Biology and the American Ornithological Union) and received 10 volunteered expert reviews. We also held four public meetings in 2007 to discuss the plan. Subsequent to the comment period, which ended in October of 2007, the Service contracted with Sustainable Ecosystem Institute to provide a review and discussion of the comments we received. Then, an interagency team of biologists worked with the SEI report and recommendations from three interagency groups of scientists (one group each on fire, habitat and barred owls) to revise the plan. The revisions were made in response to this extensive peer and public review process.

Q: The final recovery plan estimates the cost of recovery efforts over 30 years at $489 million, yet the draft plan estimated the cost at $198 million. Why is the estimated cost now higher?

A: Implementation of the eastside approach will include significant risk reduction efforts that are more extensive than those recommended in the 2007 draft. For example, treating federal lands on the arid east side of the spotted owl's range to reduce the risk of fire, insects and disease (by removing small diameter trees, dead and dying trees, brush and other fuels) could cost an estimated $340 million over the next 30 years. About 80 percent of this cost is estimated to be incurred by the Forest Service and BLM.

The cost of implementing all of the actions described in the recovery plan is estimated at $168,939,000 over the next 10 years. This is more than one-third of the 30-year estimate due to start-up costs and the fact that some actions will likely only occur within the first 10 years.

Q: What are the objectives for northern spotted owl recovery?

A: Given the scientific and management uncertainty regarding our ability to address the key threats facing the spotted owl, most of the recovery actions in the plan are given only a 10-year lifespan. As such, there are interim and long-term Recovery Objectives for the species.

The long-term objectives of this Recovery Plan are as follows:

- Spotted owl populations are sufficiently large and distributed such that the species no longer requires listing under the ESA.
- Adequate suitable habitat is available for spotted owls and will continue to exist to allow the species to survive without the protection of the ESA.
- Evidence demonstrates that the effects of threats have been reduced or eliminated such that spotted owl populations are stable or increasing and spotted owls are unlikely to become threatened again in the foreseeable future.

The interim expectations for the next 10 years are as follows:

- The Barred Owl Work Group has quantified the threats from the barred owl on the spotted owl, control techniques and appropriate implementation plans have been developed, control experiments have been conducted and decisions on managing barred owls have been made.
- The MOCA network has been established in the western Provinces with appropriate management of habitat-capable lands inside the MOCAs to support spotted owls.
- The Dry Forest Work Group has developed, and federal land management agencies have implemented, a comprehensive program of forest management on fire-prone forest lands that reduces the fire threat and encourages the development of forest habitat suitable for spotted owls.

Q: What is the population goal for northern spotted owls to be considered recovered?

A: The Service did not set a specific population level as a criteria or goal to achieve recovery in the recovery plan. The most important factors to consider in managing populations of northern spotted owls are the trends of where owls are increasing or decreasing and their geographic distribution. Restoring depleted populations and stabilizing owls so they are well-distributed across their range will ensure a sufficient genetic interchange and resistance to acute, catastrophic events.

Q: How will you know when northern spotted owls have recovered?

A: The recovery plan establishes four criteria for assessing when the northern spotted owl has reached its recovery goals. When sufficient progress toward recovery has been made, a separate team will assess the spotted owl's status to determine whether delisting is appropriate. This subsequent review may be initiated without all of the recovery criteria in the recovery plan having been fully met. For example, one or more criteria may have been exceeded, while other criteria may not have been fully accomplished. In this instance, the Service may judge that, over all, the threats have been minimized sufficiently and the species is robust enough to no longer need the protection of the Endangered Species Act.

There are four long-term Recovery Criteria in this Recovery Plan.

Recovery Criterion 1: The population trend of spotted owls is stable or increasing over 10 years of monitoring, as measured by a statistically reliable method, in each identified spotted owl province, excluding Western Washington

Lowlands and Willamette Valley, with a low probability of concluding the population is stable or increasing when it actually is declining. The Western Washington Lowlands and Willamette Valley provinces are excluded because their populations of spotted owls are so low it is assumed they cannot play an essential role in recovering the species.

Recovery Criterion 2: Within each state the distribution of spotted owls is such that at least 80 percent of Category 1 Managed Owl Conservation Areas contain at least 15 occupied spotted owl sites when surveyed over a 5-year period.

Recovery Criterion 3: In each of the East Cascades Provinces in Washington and Oregon and the California Cascades Province at least 30 percent of the province contains high-quality habitat and 75 percent of that habitat is within at least one home-range radius of an activity center of a territorial pair of spotted owls, as measured over a 5-year period**.**

Recovery Criterion 4: To monitor the continued stability of the recovered spotted owl, a post-delisting monitoring plan has been developed and is ready for implementation with the states of Washington, Oregon and California.

Q: What is the impact of northern spotted owl recovery on federal lands?

A: Recovery of the spotted owl is expected to be achieved on federal lands and recovery actions for the northern spotted owl in the recovery plan focus primarily on federal lands. Any support toward recovery from non-federal lands will increase the likelihood and speed of recovery.

Q: How does the northern spotted owl recovery effort affect non-federal lands? What does it mean for state, tribal and private lands?

A: Non-federal lands are important to the range-wide goal of achieving conservation and recovery of the spotted owl, particularly in areas where federal lands are limited. The Service's primary expectations for non-federal lands in these areas are for their contributions to demographic support (pair or cluster protection) to federal lands or their connectivity with federal lands. Many non-federal lands are included in what the recovery plan identifies as Conservation Support Areas, where the Service believes their contribution could be particularly useful. In addition, timber harvest within each state is governed by rules that provide protection of spotted owls or their habitat. The recovery plan recommends incentives to encourage non-federal land owners to contribute to northern spotted owl recovery through land management actions.

Q: Will the recovery plan impose any restrictions on what can be done on non-federal lands?

A: No. Recovery plans are not regulatory documents and do not impose any restrictions on management activities.

Q: How does the Recovery Plan relate to BLM's Western Oregon Plan Revision process and the Critical Habitat Rule?

A: The recovery plan provides recovery criteria, objectives and actions specific to the northern spotted owl. The Service has worked closely with the BLM to discuss what is needed to recover the spotted owl. It is hoped the recovery plan will help guide all federal efforts to recover the northern spotted owl including, if the timing permits, the BLM's Western Oregon Plan Revisions and the potential revisions to the northern spotted owl critical habitat designation.

Q: Was the draft recovery plan peer reviewed and made available for public comment?

A: Yes. The Service contracted with The Society for Conservation Biology and the American Ornithological Union to each provide 2 anonymous scientific reviews. Multiple other technical reviews were provided from volunteer reviewers. The draft recovery plan was available for public comment for more than five months and generated nearly 80,000 public comments. Further, the Service conducted four public meetings to discuss the draft plan and gather comments. The public meetings were held in 2007 in Redding, CA, Roseburg, OR, Portland, OR, and Lacey, WA.

Q: How were the public and peer review comments incorporated into the final plan?

A: To evaluate scientific and management issues raised during the comment period, the Service contracted with an independent consultant, Sustainable Ecosystems Institute (SEI), to provide assistance. In addition, the Service appointed three scientific work groups to evaluate comments and provide guidance on the best science concerning the three major areas of concern raised during the comment period: spotted owl habitat, fire and barred owls. The Interagency Support Team (IST) revised the draft plan using the public and peer comments, the SEI report, and the input from the three workgroups.

Q: Where are barred owls from and why are they a threat to northern spotted owls? Why weren't they a more significant threat when the northern spotted owl was listed under the Endangered Species Act?

A: Barred owls (*Strix varia*) are native to eastern North American, but progressively moved west over the past century. Because barred owls are generalists in the habitat they select and the prey they feed upon, they are outcompeting northern spotted owls for habitat and food, causing spotted owl populations to decline. At the time the northern spotted owl was listed in 1990, little was known about the threat posed by barred owls. Since then, we have learned much more about this threat and the recovery plan reflects that new information.