

## Appendix F: Responses to Comments on the 2007 Draft Recovery Plan

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On April 26, 2007, we opened a 60-day public comment period for the 2007 Draft Recovery Plan (USFWS 2007b,c), and on June, 14, 2007, we opened an additional 60-day comment period (USFWS 2007d). On September 5, 2007, we reopened the comment period for an additional 30 days to coincide with extended public comment periods for the redesignations of critical habitat for the spotted owl and the marbled murrelet (*Brachyramphus marmoratus*) (USFWS 2007e). We accepted comments through the mail and email, and via public meetings, with an email address dedicated for that purpose. We contracted the American Ornithological Union and the Society for Conservation Biology to coordinate two sets of blind peer reviews, and we requested and received reviews from the authors of three peer-reviewed studies relevant to the Recovery Plan. We received comments from other Federal agencies (e.g., Park Service, Forest Service), State agencies (e.g., Washington Department of Natural Resources, Oregon Department of Forestry, California Department of Fish and Game), The Wildlife Society, non-governmental organizations (e.g., individual Audubon chapters), and individuals.

Additional comments were gathered in the four public meetings conducted by the Service across the range of the spotted owl. The public meetings were conducted in February and March of 2007 in Redding, California, Roseburg and Portland, Oregon, and Lacey, Washington.

We received a total of approximately 75,800 written public comments (letters and emails), virtually all of which were sent via email. Most of the comments were from environmental or conservation organizations that followed one of three form letters. More than 35,500 emails were of one form letter, 24,400 of a second form letter, and 5,700 of a third form letter.

The Service's intent is to respond to each comment below. In reviewing the comments, the first task was to generate a complete list of all the unique ideas in the comments. We did not keep a tally of how many times an individual idea was presented (i.e., we did not record whether an idea was submitted once or 10,000 times). Once the list of all unique ideas was generated from a review of the comments, the ideas were then grouped into similar categories. Then, we made an alpha-numeric abbreviation of each idea by its category and number (e.g., TH3 for Threat, Habitat, third comment). These categorized and numbered comments and our responses to them are listed below. Numbered Recovery Actions refer to those in the Draft Plan, not the Final Plan.

## PROCESS

**Comment P1:** The Recovery Team did not include the appropriate or adequate scientists; it did not contain any recognized owl experts.

**Response:** We designed the 10-member Recovery Team to include managers from the primary Federal land-management agencies tasked with implementing the plan (one each from FS, BLM, and NPS), a land-management agency from each of the three States in which the spotted owl exists, and stakeholders (one from Bureau of Indian Affairs, two from the timber industry, and two from the environmental community). We chose Team members who had the authority to make decisions for the groups they represented to increase the likelihood that the Recovery Plan could be effectively implemented. Some Team members had backgrounds in management and research of spotted owls, including two recognized spotted owl experts who for more than 14 and 18 years have been monitoring spotted owls in demographic study areas that are part of long-term population monitoring. Further, the Team was supported by over 40 other scientists who participated in scientific meetings and consulted directly with the Team.

**Comment P2:** The plan needs to be peer reviewed.

**Response:** The Draft Recovery Plan was peer reviewed. During the development of the Draft Recovery Plan, we requested and received peer review of the background section by four prominent spotted owl researchers. When the Draft Recovery Plan was available for public comment, the Service contracted with the American Ornithological Union and the Society for Conservation Biology in producing two sets of blind peer reviews which resulted in four reviews. We requested and received reviews of the Draft Plan from authors of three relevant peer-reviewed studies. In addition to these requested reviews, we received many comments and reviews on the Draft Plan from other scientific organizations, including The Wildlife Society and local Audubon chapters, and Federal and State agencies.

**Comment P3:** There was inappropriate political interference.

**Response:** Government agency employees conduct their official duties as representatives of the Secretary of the Interior. As such, it is customary for government agencies to send their significant work products through their established chains of command, including their Washington, D.C. offices, to ensure those products meet with the Department's quality standards. The Recovery Plan was no exception in that Washington office personnel reviewed the first draft and provided comments to that document.

**Comment P4:** There was insufficient time for public comments.

**Response:** Section 4(f)(4) of the Endangered Species Act states: "The Secretary shall, prior to final approval of a new or revised Recovery Plan, provide public notice and an opportunity for public review and comment on such plan." Section

5.2.2.3 (“Public Review”) of the Service’s Interim Endangered and Threatened Species Recovery Planning Guidance of October, 2004, notes that “the standard time period for public review is 60 days.” The Service has the ability to be flexible in the amount of time a plan is available for review depending on the Service's needs or perception of public interest. As described in “Summary of Agency and Public Comment” above, the total period for public comment was 90 days, which we believe to be sufficient.

**Comment P5:** There was insufficient time for the process up through writing the Draft.

**Response:** A goal of completing a Recovery Plan for the spotted owl was to inform the concurrent revision to spotted owl critical habitat. Given the court-mandated timeline associated with the critical habitat revisions, the original timeline for the Recovery Plan was more compressed than is customary. That said, the process was extensive and involved over 40 scientists, a dozen Federal agency staff biologists, and the Recovery Team. The Team met nearly 30 times (either face-to-face or on the phone) in the time period and the staff biologists worked exclusively on the issue for the entire time.

**Comment P6:** There was too much accommodation for timber interests.

**Response:** As stated above, the Recovery Team included two representatives from the timber industry as well as ten other members, two of which were from the environmental community. A fair distribution of interests was given an opportunity to participate in crafting the Recovery Plan.

**Comment P7:** Forest managers of the BLM and FS should not be allowed to modify reserve boundaries or entire reserves.

**Response:** A Recovery Plan is not a regulatory document and therefore cannot establish land use allocations such as reserves. This plan does identify particular areas on the landscape, for example MOCAs, to which recovery is prioritized. These areas are not necessarily synonymous with a reserve land use allocation formally designated by a land management agency such as the U.S. Forest Service. Modifications to any reserve boundaries currently existing in land management plans require full and complete compliance with NEPA, including changes to comply or not comply with the MOCA network outlined in the Recovery Plan. Slight modifications are expected as the Plan is implemented and local managers who have the best on-the-ground knowledge realize ways to better implement the MOCAs.

**Comment P8:** Reconvene a Recovery Team and rewrite the plan.

**Response:** The Recovery Team did an exceptional job developing an effective plan to recover the spotted owl. This plan has benefitted from the input of representatives from Washington, Oregon and California, the BLM, FS, NPS, BIA and FWS, the timber industry and environmental community. It also incorporates input from spotted owl and forest science researchers familiar with conditions throughout the range of the species, Federal land managers from the

three states, professional society coordinated peer reviews and a knowledgeable and concerned public. Given the extensive efforts and the resulting ideas described in the Draft Recovery Plan, entirely rewriting the plan is not necessary. After the draft was submitted for public comment, the Service disbanded the Recovery Team and acknowledged their extensive efforts.

To finalize the Draft Recovery Plan, the Service contracted with Sustainable Ecosystems Institute to provide professional scientific advice on the comments received. Further, the Service convened three panels of spotted owl experts to help us finalize the Plan.

**Comment P9:** The range of options was too narrow; Option 1 was too much like Option 2.

**Response:** The similarities in the two options are that both are (1) based in a network of reserves designed to support clusters of pairs of reproducing spotted owls per reserve that were located within certain distances from one another and (2) dependent on managing negative impacts from barred owls. This reserve-system design is supported by all of the previous efforts to conserve the spotted owl and by our most-recent analyses for this Recovery Plan. The need to manage for barred owls is a recent addition to the conservation strategy for spotted owls and is supported by the best-available information. The only difference in the options was how the reserves would be identified. Option 1 provided a map of the conservation areas, whereas Option 2 provided a rule set by which the land management agencies would construct a network of conservation areas.

The final Recovery Plan includes a MOCA network on the west-side of the Cascade crest and a dynamic landscape management approach to east-side, which is more prone to natural disturbances.

**Comment P10:** There was too much accommodation for plan revisions by BLM and FS.

**Response:** As members of the Recovery Team, the FS and BLM had significant input into the structure and direction of the Recovery Plan. The plan, however, is a Service document and the recommendations contained within it are wholly the responsibility of the Service.

## Strategy

**Comment ST1:** The plan should include a captive-breeding program.

**Response:** Currently, numbers of spotted owls in Washington, Oregon, and California are high enough that a captive-breeding program is not warranted. If this changes in the future, the Service will address the need at that time.

**Comment ST2:** Reduce or eliminate incidental take of spotted owls on Federal and/or private lands.

*Response:* Analyses of whether incidental take of proposed actions would jeopardize the continued existence of threatened species on Federal land and on non-Federal land covered by HCPs are required during ESA consultation with the Service. Where a proposed action does not result in jeopardy of the species, incidental take may still be warranted.

**Comment ST3:** The plan needs a population goal.

*Response:* It would be extremely expensive to accurately estimate and monitor over time the total population of a wide-ranging species like the spotted owl that is becoming increasingly difficult to detect due to the presence of barred owls. Consequently, we depend on the overall distribution of spotted owls and the trend in their numbers as indicated by studies of spotted owls in demographic study areas throughout the range of the spotted owl. Every 5 years, the demographic data from these study areas are analyzed individually and collectively. From those analyses, we have adequate knowledge of the distribution, reproduction, and survival of spotted owls throughout the species' range.

**Comment ST5:** The plan needs a population viability analysis.

*Response:* A population viability analysis would be beneficial, yet due to time and financial resources has never been completed for the spotted owl.

**Comment ST6:** The plan needs an analysis of how implementing the plan would recover the spotted owl.

*Response:* The Service believes this plan, if implemented fully, can recover the spotted owl. This belief is based on the best available information, including revised spotted owl population modeling and best estimates of how to address the threats from barred owl. However, the Service acknowledges there is significant uncertainty surrounding spotted owl recovery and therefore gives this Plan only a 10-year lifespan. Such a short timeframe is unusual for a Recovery Plan, and it is meant to acknowledge the uncertainty and the need to adaptively manage as new information arises. Given the significant uncertainty, especially surrounding the threat from barred owls, any analysis regarding the ability of the Plan to achieve recovery would be questionable at best. An analysis of the Plan's ability to meet recovery will have much more greater accuracy after 5 to 10 years of data have been gathered and we have a better understanding of our ability to address barred owls.

**Comment ST7:** The Recovery Plan needs a presentation of the roles of CSAs, the criteria used to select CSAs, and the proposed management of CSAs. The plan needs to include CSAs in Oregon.

*Response:* As defined in the Draft Recovery Plan (p. 23), CSAs are outside of MOCAs "where habitat contributions by private, state, and Federal lands are expected to increase the likelihood of spotted owl recovery". The final Plan retains CSAs where deemed appropriate and assigns them a similar role. CSAs were identified in areas where existing private or State management plans that

the Recovery Team believed would increase the likelihood of spotted owl recovery (SOSEAs in Washington and HCPs in California) or where the amount of Federal land or habitat on Federal land was so sparse that contributions from all landowners were deemed helpful (in Oregon). Land managers in CSAs could assist the recovery of the spotted owl by implementing one or more of the Recovery Actions applicable to their lands.

**Comment ST8:** The plan should provide Province-specific assessments of threats and means to address them.

*Response:* The plan identifies the main threats to the species, highlights the portions of the range of the species where those threats are applicable, and offers management solutions to address those threats. We believe the scale of the threats addressed in the Recovery Plan is sufficient for land managers to effectively implement these recommendations.

**Comment ST9:** Satisfactory implementation of relocating habitat blocks in BLM and FS lands in Option 2 is impossible due to declining budgets and personnel, insufficient expertise, and necessary coordination among BLM and FS districts.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment ST10:** The recovery potential of the many outcomes of Option 2 has not been tested or modeled; the plan needs to explain how Option 2 would achieve recovery.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment ST11:** The plan needs to describe whether any other Recovery Plans have effectively used a strategy similar to that in Option 2.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment ST12:** For Option 2, the plan should include detail concerning the schedule of the designation of habitat blocks, how Federal agencies would cooperate in the designations, how boundaries would change over time, how the public may have input into this process, and the oversight role of the FWS in adjustments made to boundaries of habitat blocks by BLM and FS.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment ST13:** The plan should include meaningful incentives for private land managers to develop habitat. Regulations may have the unintended negative consequence of causing private landowners to remove habitat before it becomes suitable and occupied by spotted owls. A knowledgeable group could address the policy disincentives to promote spotted owl recovery. This group would need a variety of expertise including the expertise of industrial and non-

industrial forest landowners, lawyers knowledgeable in ESA issues and conservation agreements, and State and Service personnel.

*Response:* The Plan acknowledges these points and describes recovery actions to begin addressing them.

**Comment ST14:** The Plan needs to describe how it differs (*e.g.*, amount and distribution of habitat; provisions for dispersal habitat; residual pair areas between habitat clusters; additional prescriptions to support clusters of spotted owls in high fire-risk areas; clusters of spotted owls in non-Federal lands; contributions of non-Federal land, especially in northwest Oregon) from the previous plans upon which it is based (*e.g.*, NWFP, 1992 Recovery Plan).

*Response:* Virtually all of the requested information is contained within the Recovery Plan in the reserve network tables, Recovery Actions, and CSA descriptions. It should be kept in mind that Recovery Plans are not decision documents; they only provide guidance relative to reaching recovery of the species in question. If the Federal land-management agencies decide to alter their existing land management direction to follow the recommendations of the Recovery Plan, it will be incumbent on them to address the alternative management approaches they propose in their NEPA documentation.

**Comment ST15:** The plan should fully describe why the Western Washington Lowland, Willamette Valley, and California Cascades were excluded from Recovery Criterion 2, and what role they play in spotted owl recovery. Rather than exclude these areas from the conservation strategy, an evaluation of the potential future importance of these areas should be conducted. If this evaluation indicates a benefit from establishment of populations of spotted owls in those Provinces, then this would provide incentive for voluntary, collaborative efforts to recruit or maintain spotted owls on Federal, State, and private lands.

*Response:* Due to the amount and distribution of suitable habitat and Federal land in these three Provinces, it is unlikely future spotted owl populations will be large enough to provide the scientific certainty of increasing populations necessary to meet our Recovery Criteria. Consequently, these areas were excluded from consideration of our Recovery Criteria.

**Comment ST16:** Option 2 appears to allow flexibility, but, due to the few areas with large-enough acreages of suitable habitat that contain spotted owls, there are few options in identifying the locations of large-habitat blocks (especially in northern Washington).

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment ST17:** The small habitat blocks allow for having only one pair of spotted owls, which is not biologically tenable.

*Response:* The Plan prioritizes establishing a 20-pair block where possible, and only then establishing smaller blocks than needed for 20 pairs of spotted owls. Additionally, the Plan looks to the establishment of smaller blocks "with as large

a carrying capacity as the available habitat-capable acres and spacing requirements allow." In those areas where there is only enough habitat to support a single spotted owl pair there may be such small reserves. While small, these habitat blocks may serve an important connectivity function across the landscape.

**Comment ST18:** Many areas mapped as MOCAs do not meet the definition of suitable spotted owl habitat and should be removed.

*Response:* In establishing the MOCAs, the Service sought to include areas that are capable of developing spotted owl habitat and that contained both spotted owls and spotted owl habitat, along with numerous other criteria. We fully anticipated that not every acre of any MOCA would be in a suitable habitat condition, and it would be unlikely that all acres of any MOCA would achieve a suitable condition at any point in time given the dynamic nature of forested landscapes. However, areas that are not in a suitable habitat condition may still contribute to spotted owl recovery by providing a prey source, natural openings, or dispersal habitat, among other benefits, making them a valuable component of MOCAs or other reserved areas.

**Comment ST19:** The plan should include risk analyses for both options.

*Response:* Option 2 is eliminated in the final Recovery Plan. The Service did not conduct a risk analysis for the Plan given the available time and resources. In the recovery planning process, assessing the risk of making a poor decision is valuable, yet formally doing so is not always possible to do with any accuracy given the timeframe or current available information. In addition, while helpful formal qualitative risk assessments on issues this complex would involve multiple assumptions and provide only general guidelines, not specific management direction.

**Comment ST20:** Private lands should not be included in the conservation strategy.

*Response:* Private lands are included only when they fall within Conservation Support Areas. Cooperation by private landowners is completely voluntarily.

**Comment ST21:** The plan states that protection of Federally owned lands are sufficient for the conservation of spotted owls, so only Federally owned lands should be included in total acres shown for Option 2.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment ST22:** The plan should clearly describe how MOCAs or habitat blocks and CSAs are to be managed.

*Response:* The Recovery Plan specifies the spotted owl habitat goals for the MOCAs but defers the actual management of those acres to the expertise of the land management agencies. By providing the goals to be achieved, the BLM and FS can use their management discretion and silvicultural techniques to best meet



those goals given the wide array of preexisting conditions and climatic variables they encounter across the range of the spotted owl.

Management of CSAs depends on the individual CSA. In some cases, the management of those lands have been agreed to by the Service and the landowner based upon existing, signed HCPs. In some cases, the state of Washington has guided the management of those lands. In Oregon, the management is entirely voluntary, so specific management descriptions would be inappropriate.

**Comment ST23:** The plan should explain why tribal lands are not considered Federal lands for the purposes of this plan and why tribal lands are not necessary for the recovery of the spotted owl.

*Response:* The Service maintains a government-to-government relationship with the Native American Tribes in the Pacific Northwest, which recognizes their autonomy as sovereign nations. As stated in Secretarial Order #3206, "Indian lands are not Federal public lands or part of the public domain, but are rather retained by tribes or set aside for tribal use pursuant to treaties, statutes, court orders, executive orders, judicial decisions, or agreements." In addition, the Service does not believe Tribal lands are a necessary part of the habitat managed for the spotted owl to achieve recovery.

**Comment ST24:** The plan should prioritize the placement of reserves on FS lands over BLM O&C/CBWR lands because FS lands have no direction to make timber production the dominant use.

*Response:* Recovery Plans are neither land-management documents nor decision documents; they only recommend strategies to recover listed species based on the biology of the species and possible management opportunities. The actual placement of reserves to provide for spotted owl recovery would occur as part of revisions to BLM and FS land-management plans.

**Comment ST25:** The plan should address the risk that population declines of spotted owls may lag behind protection of habitat and may continue regardless of protection of habitat.

*Response:* A lag effect on the spotted owl from past habitat management practices has been hypothesized by some scientists, yet no conclusive evidence is available. This Plan states past and current habitat loss are key threats to the spotted owl and must be addressed in order to achieve recovery. To address these threats, the Plan describes a MOCA network and a landscape approach for the drier, more disturbance-prone landscapes.

**Comment ST26:** The plan needs to describe how recovery can be met in southwestern Oregon while allowing the BLM to fulfill its responsibilities for timber production under the O&C Act.

*Response:* For the draft Recovery Plan, the Service chose to use the most-recent, widely accepted population modeling for the spotted owl, and we incorporated these data when appropriate. For the final Recovery Plan, we enlisted the

assistance of scientists from the USDA Forest Service's Pacific Northwest Research Station to revise the spotted owl population modeling efforts. This new modeling work considered the effect of habitat block sizes and distances between blocks on spotted owl persistence. The results of this revised modeling are similar to the past modeling efforts and support the final Recovery Plan's conclusion that the MOCA network can support a stable spotted owl population if other threats are addressed. This analysis is also true in Southwestern Oregon where the MOCAs, in part, line up with the BLM's proposed Late Successional Management Areas.

**Comment ST27:** Option 2 does not comply with two key components of Recovery Plans, which are a description of site-specific management and objective, measurable criteria.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment ST28:** Eliminating existing protection of habitat in Federal lands as presented in both options could subvert existing conservation measures such as those in Habitat Conservation Plans and State forest practice rules.

*Response:* Recovery plans are not regulatory documents, so they do not confer "protection" to any habitat. The final Recovery Plan acknowledges the importance of contributions to recovery from HCPs and State forest practice rules. The likelihood and speed of recovery are greatly increased the more support the spotted owl receives from non-Federal landowners. Further efforts to support spotted owl recovery from non-Federal landowners are strongly encouraged.

**Comment ST30:** The plan should encourage the establishment of a collaborative program of spotted owl conservation with British Columbia.

*Response:* Collaboration on spotted owl recovery efforts between Canada and the U.S. is a good idea and is occurring, yet the existing situations are dramatically different. Canada recently brought some of its remaining spotted owls into captivity given the dire situation. While the spotted owl in the U.S. is threatened, *in situ* conservation efforts are still the best strategy to achieve recovery.

**Comment ST31:** The overall number of pairs of spotted owls needed to reach recovery is overly influenced by the number of MOCA 1s delineated. For example, adding one small area to an existing MOCA would not increase the number of pairs needed for recovery, but making that new area a MOCA 1 would add 15 pairs.

*Response:* MOCA 1s are large habitat blocks intended to allow for spotted owl reproduction and dispersal. MOCA 1s were created based on the ISC report, the 1992 Draft Recovery Plan, and the NWFP. They were tiered, as best as possible, to habitat-capable acres. The final Recovery Plan does not set a number of owls desired to meet recovery, especially given that we currently do not know the number of existing spotted owls.

**Comment ST32:** The plan needs to describe the rationale for its estimated date of recovery as 2037 for both options.

*Response:* Given the significant uncertainty of the ability to address the full threats facing the spotted owl, the final Recovery Plan is given only a 10-year lifespan, and the estimated time to delisting is removed.

**Comment ST33:** The plan should recommend Recovery Actions that would address the lack of regulatory mechanisms if the spotted owl were delisted.

*Response:* This is an ever-present conundrum associated with a listed species, *i.e.*, a listed species may not suffer from inadequate regulatory mechanism as it is listed, yet once delisted the regulatory mechanisms may be inadequate therefore requiring relisting. The Service helps avoid this situation by ensuring a post-delisting monitoring plan is in place before delisting occurs. Further, the future group tasked with determining if the spotted owl is recovered will assess whether the post-delisting regulatory mechanisms will be adequate.

**Comment ST34:** The plan needs to assess the effects of replacing LSRs with MOCAs or habitat blocks.

*Response:* For the draft Recovery Plan, the Service chose to use the most-recent, widely accepted population modeling for the spotted owl, and we incorporated these data when appropriate. For the final Recovery Plan, we enlisted the assistance of scientists from the USDA Forest Service's Pacific Northwest Research Station to revise the spotted owl population modeling efforts. This new modeling work considered the effect of habitat block sizes and distances between blocks on spotted owl persistence. The results of this revised modeling are similar to the past modeling efforts and support the final Recovery Plan's conclusion that the MOCA network can support a stable spotted owl population if other threats are addressed.

**Comment ST35:** Demographic parameters of annual survival and fecundity should be included as Recovery Criteria.

*Response:* There has been much discussion about key vital rates, such as survival and fecundity, during the writing of the Recovery Plan. It was decided against using these measures in Recovery Actions or Criteria as what we are really interested in is the final outcome of these vital rates – that is, a stable and increasing population. The final Recovery Plan emphasizes the status of the population, rather than attempting to identify desired levels of vital rates, especially given that it is not always clear what feasible combination of vital rates will provide for a stable or increasing population.

**Comment ST36:** Under FEMAT (USDA 1993), Option 9 (the NWFP) was considered to provide greater than an 80 percent likelihood that the strategy would provide sufficient habitat to maintain well distributed, viable populations of northern spotted owls on Federal lands for 100 years. Given that both options of this plan protect fewer acres of habitat, the present draft plan also should include the likelihood of recovery.

*Response:* Given the significant uncertainty surrounding the barred owl threat, we did not conduct a risk assessment. Rather, the final Recovery Plan has a 10-year timeframe in order to emphasize the need to reassess the best path to recovery within a short timespan. The final Recovery Plan includes a habitat network (MOCAs), the sizing and spacing of which are based on the best available spotted owl population modeling. The modeling indicates that, if other threats are addressed, the MOCAs will be sufficient (on the west-side of the Cascades, the east-side does not include MOCAs) to allow spotted owls to persist. The east-side approach is deemed the best approach given the area's frequent disturbance regime. The Plan also includes a Recovery Action that calls for the maintenance of substantially all older, multi-layered conifer forests outside of the MOCAs on Federal lands west of the Cascades crest. These forests are meant to not increase the competitive pressure between spotted owls and barred owls as we attempt to address the threats from barred owls.

*Comment ST37:* The plan should explain why the threshold for Recovery Criterion 3 is 15 pairs of spotted owls, but MOCAs and large habitat blocks are to have at least 20 pairs.

*Response:* The large MOCAs are designed to support at least 20 pairs of owls, yet given natural variability, it is not expected each large MOCA will have 20 pairs present at all times. Additionally, the ISC modeling found population stabilization when blocks were large enough for 15 pairs of reproducing spotted owls, but designed them for 20 pairs in order to support at least 15 reproducing pairs. Hence, the Service thinks it is reasonable to have as a recovery criterion the goal that at some future state at least 80 percent of the MOCA 1s per state contain at least 15 pairs of spotted owls.

## Science

*Comment S1and S2:* The plan does not include or is not based upon the best available science. The plan omits certain scientific information.

*Response:* The Service considered all the relevant scientific information it was aware of in writing both the draft and final Recovery Plan, whether or not each study is included in the literature cited section. As part of the public review and comment process, we were made aware of additional relevant information that was considered in writing the final plan. The Service did not just review published scientific literature, we also engaged nearly 40 scientists with knowledge of important issues, from spotted owl biology to climate change.

*Comment S3:* The plan misinterprets certain scientific information.

*Response:* During the process of writing both the draft and final Recovery Plan, the Service reviewed and incorporated an extensive amount of information on a wide range of issues involving the spotted owl. Many of the studies were very specific to our goals and easily converted into components of the Recovery Plan. Many studies, however, were relevant to the issues we addressed, but required some level of interpretation or extrapolation to use the information in the manner

needed or at the scale of the Recovery Plan. In some cases (particularly those related to the spatial mixture of habitat and non-habitat in the southern portion of the range), the amount of extrapolation was to an extent that the Recovery Team felt it necessary to obtain a review from the researchers whose work we had used. Those reviews indicated that the researchers were not comfortable with how we had implemented their results, and, as a result, we revisited those data with an independent contractor and a panel of spotted owl experts. The final Recovery Plan revises several key areas and has benefited from the multiple peer reviews received.

**Comment S4:** The plan relies on outdated population modeling.

**Response:** For the draft Recovery Plan, the Service chose to use the most-recent, widely accepted population modeling for the spotted owl, and we incorporated these data when appropriate. For the final Recovery Plan, we enlisted the assistance of research scientists from the USDA Forest Service's Pacific Northwest Research Station to revise the spotted owl population modeling efforts. This new modeling data considered the effect of habitat block size and distance between blocks on spotted owl persistence. The results of this revised modeling are similar to the past modeling efforts and did not lead to a change in our MOCA network.

## Threats

### Habitat

**Comment TH1:** The plan should be based on the NWFP and should protect at least as much habitat as the NWFP does; the plan needs to describe how protection of less spotted owl habitat than that in the NWFP would recover the spotted owl.

**Response:** The NWFP is a management plan designed to provide the habitat needs for over 1,000 species of plants, animals, and fungi – not just the spotted owl. This plan is specific to the recovery needs of the spotted owl only, as required by the Services' Recovery Planning guidance. The amount of habitat needed by the spotted owl in this plan is based on the ISC Report and the 1992 Draft Recovery Plan, both of which committed fewer acres to a reserve network than did the NWFP. This plan, however, has additional measures not found in the NWFP for controlling the impacts of the barred owl on the spotted owl. We believe that the habitat protections, in concert with the provisions to control the barred owl, will be effective at recovering the spotted owl.

**Comment TH2:** The plan does not preserve enough habitat to recover the NSO.

**Response:** Recent spotted owl population modeling indicates the maintenance and restoration of habitat as described in the final Recovery Plan is adequate to recover the spotted owl, given that other threats, especially competition from barred owls, are sufficiently reduced or eliminated to permit the habitat to be effective in supporting spotted owls.

**Comment TH3:** Option 1 is insufficient to recover the NSO.

*Response:* Recent spotted owl population modeling indicates the maintenance and restoration of habitat as described in the final Recovery Plan is adequate to recover the spotted owl, given that other threats, especially competition from barred owls, are sufficiently reduced or eliminated to permit the habitat to be effective in supporting spotted owls.

**Comment TH4:** Option 1 is a politically motivated option.

*Response:* Option 1 was based on the best available science. The MOCA network described in Option 1 is based on the reserve network laid out in the 1992 Draft Recovery Plan and was modified using more recent habitat maps and the NWFP reserves as guidance to better capture areas that could function for spotted owls. Recent spotted owl population modeling indicates the maintenance and restoration of habitat as described in the final Recovery Plan is adequate to recover the spotted owl, given that other threats, especially competition from barred owls, are sufficiently reduced or eliminated to permit the habitat to be effective in supporting spotted owls.

**Comment TH5:** Option 2 is insufficient to recover the NSO.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment TH6:** Option 2 is a politically motivated option.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment TH7:** Option 2 has inadequate regulatory oversight.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment TH8:** Protect all suitable habitat; protect all old-growth forests; protect forests in all public lands.

*Response:* If efforts to control barred owls are coupled with habitat protections as recommended in the Recovery Plan, we do not believe spotted owl recovery necessitates placing all suitable habitat stands in reserves or the retention of all old-growth forests.

(We deleted Comment TH9.)

**Comment TH10:** State-owned lands and other public lands need to take key roles in protections of habitat, especially in areas where there are not large, contiguous blocks of suitable habitat on Federal land (*e.g.*, northern California). The plan should include a Recovery Action concerning how State-owned lands and other public lands can contribute to the recovery of spotted owls while enabling those lands to continue to be managed consistent with their mandated purposes.

*Response:* The plan describes a contributory role that non-reserved lands can play in the description of CSAs. While CSAs are only designated or described in specific portions of the range, it is likely that contributions from any non-reserved lands would speed the recovery of the spotted owl. In the plan, CSAs are described as potentially functioning to provide demographic support to core spotted owl populations in the MOCA or habitat networks, facilitate dispersal of juvenile spotted owls among MOCAs or habitat networks, or serve both of these functions. We agree that additional contributions from non-reserved lands would be of assistance in achieving recovery.

**Comment TH11:** Option 1 does not adequately protect forests from habitat changes including catastrophic fire.

*Response:* Management of spotted owl habitat in fire-prone, dry forests received much attention and deliberation between the draft and final Recovery Plans. As a result, the strategy of maintaining a MOCA network in the fire prone Provinces was replaced with a landscape-scale strategy aimed at managing all forested acres to address fire risk while providing habitat for spotted owls.

(We deleted Comment TH12.)

**Comment TH13:** The plan should support connectivity with the Olympic Peninsula. At a minimum, there should be a re-analysis of the stability of this population and its role in recovery of the species before reductions in areas protected as is proposed in Option 2 be adopted.

*Response:* The Service does not consider there to be viable connectivity possibilities between the Olympic Peninsula and the rest of the range. The threats facing the Olympic Peninsula are significant, especially the growing threat from barred owl competition. The final Recovery Plan attempts to highlight the importance of this threat and outline a strategy to address it. Acknowledging the lack of connectivity between the Olympic Peninsula and the rest of the range also acknowledges the limited existing possibility for new spotted owl genetic material to enter the Olympic population. While the lack of genetic interchange is currently not deemed a problem, the issue should be revisited over time.

**Comment TH14:** The plan should be ecosystem-based, not spotted owl-based.

*Response:* The final Recovery Plan does take more of an ecosystem approach, especially in the more disturbance prone forests on the east side of the Cascade Range. Yet, this is a plan on how to recover the spotted owl and concentrates its criteria and actions to this focus.

**Comment TH15:** The plan underemphasizes the threat from habitat loss.

*Response:* As described above in response to comment TB2, the assumption in the identification and ranking of threats to the spotted owl was that adequate quantity and quality of habitat would be protected for the spotted owl. In the Draft Plan, we neglected to describe this assumption. In the final Recovery Plan, the assumption is clearly identified and the overall priorities more accurately places the need for sufficient habitat to be managed for the spotted owl.

**Comment TH16:** Habitat definitions are too vague (*e.g.*, it is impossible to know when targets are met; low-quality habitat could count for high-quality habitat; old forests could be logged as young forests become 80 years old; no definition of dispersal habitat), too inclusive (*e.g.*, they include open, old-growth, eastside Ponderosa pine forests), confusing (*e.g.*, Recovery Criterion 4 with “listed percentage of high-quality habitat” whereas the table for that criterion lists “percentage of habitat-capable acres in suitable habitat), or inaccurate (*e.g.*, high-quality habitat as defined in plan really defines suitable habitat).

*Response:* We standardized the definitions of habitat in the final plan where we could do so. However, we do not have standard definitions of the various types of spotted owl habitat; consequently, in the draft and final Recovery Plans we have a Recovery Action to do so.

**Comment TH17:** The plan overemphasizes the value of HCPs. Recovery Actions that are based on assistance from HCPs should be removed from the plan.

*Response:* The expectations from existing HCPs were taken from current land-management agreements in those HCPs. Therefore, the Service believes it is appropriate to rely on these HCPs for agreed-upon contributions.

**Comment TH18:** The plan should evaluate how HCPs contribute to the recovery of spotted owls.

*Response:* The final Recovery Plan does not include any HCPs as required for achieving spotted owl. Any addition benefits HCPs can provide toward recovery would help increase the speed and likelihood of reaching recovery. HCP’s were recognized as supporting the recovery effort, particularly in California where several of the Conservation Support Areas were based upon HCP areas

**Comment TH19:** The plan should address the inadequacy of regulatory mechanisms. For example, it should include an analysis of harvest of spotted owl habitat in non-Federal lands and an analysis of inconsistencies among State rules in Washington, Oregon, and California and Federal guidelines.

*Response:* In writing the final Recovery Plan, the Service assessed whether there were inadequate regulatory mechanisms to implement the Recovery Actions and achieve the Recovery Criteria. It is believed all actions and criteria are feasible within the current regulatory mechanisms.

**Comment TH20:** The plan should provide for dispersal habitat or describe why it does not; if it does not, then the Plan should explain why NWFP riparian reserves are no longer needed for dispersal of spotted owls.

*Response:* The value of spotted owl dispersal habitat is discussed in the final Recovery Plan. There are many strategies that could be employed by land-management agencies to provide for dispersal, so we anticipate other approaches will be presented and followed by the FS and BLM through their NEPA documents on land-management plan revisions.



**Comment TH21:** Option 2 would allow BLM to escape its responsibility to conserve the spotted owl via the Western Oregon Plan Revisions.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment TH22:** The plan should encourage use of variable-density thinning in matrix and reserves.

*Response:* The plan leaves all the silvicultural and management tools available to the land management agencies to achieve the Recovery Criteria. While variable-density thinning may be the best tool in some situations, other methods may be found to be more effective in certain stands, and other methods may be developed in the near future.

**Comment TH23:** The plan should encourage managing for decadence.

*Response:* We agree that decadence of stands is an important aspect of spotted owl habitat, and that spotted owl habitat is benefited by managing toward decadence. We believe the plan does encourage the development and inclusion of decadence within the MOCAs as a component of suitable spotted owl habitat.

**Comment TH24:** The plan should not rely on in-growth of suitable habitat until those forests have been verified to be of high quality.

*Response:* The Recovery Criteria in the final Recovery Plan rely upon owl occupancy and distribution rather than amounts of habitat, thus relying on the owl as the indicator of when forest in-growth is suitable for owl use.

**Comment TH25:** Option 2 should not allow currently suitable habitat to be logged in habitat blocks if habitat-capable forest is included in its place.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment TH26:** Option 2 makes regulatory mechanisms inadequate because local BLM and FS districts can decide on the locations of habitat blocks without regional perspectives, and these decisions can be influenced by timber interests.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment TH27:** The size, spacing, and location of reserves should be modified to ensure spotted owls will persist in the presence of barred owls (e.g., drier, steeper sites may be better for spotted owls relative to barred owls; larger reserves may be needed to buffer effects from barred owls).

*Response:* This plan establishes Recovery Criteria for habitat maintenance and restoration and standards for minimizing barred owl influences. These criteria are independent of each other, as we do not understand how to modify habitat such that spotted owls will benefit more than barred owls. The 10-year lifespan

of the final Recovery Plan is meant to indicate the need to aggressively pursue more information and reassess/revise the plan as the need arises.

**Comment TH28:** There should be no logging in reserves.

*Response:* In many types of young forest, the Service believes logging can accelerate the development of spotted owl habitat better than in stands in which no silvicultural management occurs. This is particularly true in stands that have originated from evenly spaced planting after a stand-replacing fire or timber harvest. In many cases, such stands will develop more slowly and uniformly without silvicultural management that creates small openings and stand diversity.

**Comment TH29:** Purchase conservation easements from private landowners to develop habitat.

*Response:* The purchase of conservation easements is a possible tool for habitat conservation, but at this time the Service does not see the need to use it for the recovery of the northern spotted owl. It may have future application.

**Comment TH30:** The options should provide scientific analyses connecting performance of spotted owl populations and habitat-management actions to allow a comparison of whether the management approaches have high, medium, low, or no probability of meeting the Recovery Criteria.

*Response:* Given the significant uncertainty surrounding the barred owl threat, we did not conduct such an analysis. There are many confounding variables and unknowns, so the results of this analysis would be questionable. Rather, the final Recovery Plan has a 10-year timeframe in order to emphasize the need to reassess the best path to recovery within a short timespan. The final Recovery Plan also includes a habitat network (MOCAs) the sizing and spacing of which are based on the best available spotted owl population modeling. Model simulations were performed to examine the interactions between habitat block size and the distance between the blocks to gain insight into population trajectory responses for given hypothetical block sizes and distances. We assessed the specific block sizes and locations in the final Recovery Plan in relation to the results from the modeling results. The modeling indicates that, if other threats are addressed, the MOCAs will be sufficient (on the west-side of the Cascades, the east-side does not include MOCAs) to allow spotted owls to persist. The east-side approach is deemed the best approach given the area's frequent disturbance regime.

**Comment TH31:** The plan should include site-specific management actions; both options have vague and shifting management guidelines and fail to provide site-specific management actions, especially in Option 1 habitat blocks; the plan should put more emphasis on efforts to restore and enhance suitable habitat.

*Response:* The final Recovery Plan provides criteria that are expected to be met if the Recovery Actions are followed. These actions are as fine-scaled and site-

specific as possible for such a wide-ranging species. The description for each action often elaborates or gives examples of site-specific activities.

**Comment TH32:** The plan should recommend protecting all Federal land in which there are active, reproducing spotted owl sites.

*Response:* A recommendation is included in the Recovery Plan regarding management of habitat in proximity to occupied owl sites. Given the best available information, the Service does not believe all Federal land is needed to achieve a stable or increasing, well-distributed spotted owl population.

**Comment TH33:** The plan should recommend Federal agencies be prevented from habitat alteration within 500 meters of known, occupied spotted owl site-centers.

*Response:* A recommendation is included in the Recovery Plan regarding the importance of managing of high-quality habitat in proximity to occupied owl sites for spotted owls.

**Comment TH34:** The Recovery Criterion should include reproductive output (not just total numbers) of spotted owls in the reserves

*Response:* The Service decided that to require monitoring of reproductive output (in addition to total numbers) of spotted owls is not feasible.

**Comment TH35:** The plan recommends conducting silvicultural treatments to help restore spotted owl habitat and accelerate its development. It also needs to recommend monitoring of stands in which such work has been done to evaluate whether spotted owls are establishing territories there.

*Response:* The final Recovery Plan calls for monitoring spotted owl territories to determine whether the Recovery Criteria have been met.

**Comment TH36:** The plan inappropriately estimated percentages of suitable habitat needed by Province (Recovery Criterion 4) by misinterpreting scale, lambda (h), and overall approach used in certain publications (*i.e.*, Franklin *et al.* 2000, Olson *et al.* 2004, Dugger *et al.* 2005).

*Response:* In response to comments and peer reviews, the final Recovery Plan eliminates criteria concerning habitat targets in MOCAs based on the habitat fitness potential idea.

**Comment TH37:** More information is needed concerning the meaning of "habitat-capable." It is unclear why, if they are capable of supporting 20 or more pairs, they are not currently inhabited by 20 or more pairs. If they are not inhabited by 20 or more pairs, it is questionable whether they are in fact capable of supporting that number of owls.

*Response:* In this plan, MOCAs are designed to be capable of supporting some number of spotted owls either in their current condition or after enough time has passed for the forested lands within them to develop into enough habitat to support that many owls. Lands that are considered habitat-capable are those that

will, under natural conditions, be able to support forests that function for spotted owl nesting, roosting and foraging. Habitat-capable lands may not currently be in that condition, but can develop over time under the right management regime (with allowances for catastrophic events).

**Comment TH38:** Habitat blocks that are not currently capable of supporting 15 or more pairs of spotted owls should be enlarged so that they currently include enough habitat to support 15 or more pairs. These blocks could be decreased in size in the future; such decreases should maximize the numbers and distribution of spotted owls at that time.

**Response:** This option was considered during development of the final Recovery Plan, but was not adopted for multiple reasons. In many areas, the MOCAs simply do not have sufficient neighboring habitat capable acres to allow for enlargement.

**Comment TH38:** The plan inappropriately uses modeling for habitat fitness potential.

**Response:** In response to comments and peer reviews, the Service eliminated criteria concerning habitat targets in MOCAs based on the habitat fitness potential idea.

**Comment TH39:** Some Option 2 habitat blocks mapped in the plan include non-Federal lands. This does not agree with the rest of the plan which states that only Federal lands are in habitat blocks.

**Response:** Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment TH40:** The Recovery Plan consider the findings of Zabel *et al.* (2003) in establishing the percentage thresholds in northern California. In addition, there should be a Recovery Action that runs that model for Washington and Oregon.

**Response:** In response to comments and peer reviews, the Service eliminated criteria concerning habitat threshold targets in MOCAs. The recovery criteria in the final Recovery Plan rely upon owl occupancy and distribution rather than threshold amounts of habitat.

**Comment TH41:** The plan should map the CSAs in Oregon.

**Response:** The Recover Criteria identify recovery occurring through Federal lands only. CSAs were developed to identify important non-Federal lands where management for spotted owls currently exists. The Service believes the CSAs identified in Oregon meet this criterion.

**Comment TH42:** State-owned lands should be included in reserves.

**Response:** Based on the best available spotted owl population modeling and other information, it is believed recovery for the spotted owl can be achieved by looking mainly to Federal lands. Non-Federal lands, including State-owned

lands, do play an important role in helping achieve recovery, hence the designation of CSAs.

**Comment TH43:** There should be a MOCA in the South Willamette/North Umpqua area as in the 1992 draft plan.

**Response:** The final Recovery Plan establishes a MOCA in South Willamette/North Umpqua area.

**Comment TH44:** Forests would be logged before testing the validity of the provincial thresholds for habitat percentages.

**Response:** In response to comments and peer reviews, we eliminated criteria concerning habitat threshold targets in MOCAs based on the habitat fitness potential idea.

**Comment TH45:** The plan should not allow harvest within 500 meters of all active and historical spotted owl activity centers and all historic nest trees.

**Response:** A recommendation is included in the Recovery Plan regarding the importance of managing of high-quality habitat in proximity to occupied owl sites for spotted owls.

**Comment TH46:** Recovery Action 11 fails to reflect the potential significance of presently unoccupied habitat sites for spotted owl recovery.

**Response:** This Recovery Action has been eliminated in the final Recovery Plan.

## Barred Owl

**Comment TB1:** The plan underemphasizes the barred owl threat.

**Response:** The two most-important requirements for the recovery of the spotted owl identified in the Recovery Plan are to maintain and restore adequate habitat and to manage negative effects from barred owls. These two requirements are supported by the best-available information.

**Comment TB2:** The plan overemphasizes the barred owl threat.

**Response:** On June 1, 2006, a panel of seven experts was assembled to help the spotted owl Recovery Team identify the most current threats facing the species. Six of the seven panelists were experts on the biology of the spotted owl, and a seventh panelist was an expert on fire ecology. The workshop was conducted as a modified Delphi expert panel, in which the Recovery Team queried the seven panelists regarding their individual judgments in the context of a structured, open discussion among panelists. The assumption in the identification and ranking of threats to the spotted owl was that adequate quantity and quality of habitat would be protected for the spotted owl. Given this assumption, the panelists identified and ranked threats to the spotted owl, placing effects from barred owls as one of the top few threats. In the Final Plan, the assumption is clearly identified and the overall priorities more accurately describe the

importance of maintaining and restoring habitat and addressing the threat from barred owls.

**Comment TB3:** Do not shoot barred owls; shooting barred owls will not be successful.

*Response:* Many steps would be taken before any control of barred owls would be done. These steps include solicitation of comments from the public, NEPA analysis, control experiments to test the effects of removing barred owls on spotted owls and the most-effective methods to control barred owls, and identification of areas for removal of barred owls. Consequently, we would control barred owls only if we showed that doing so was required for the recovery of spotted owls and if such control would be successful.

**Comment TB4:** The plan needs a contingency plan for the barred owl.

*Response:* If we are not able to manage the effects of barred owls on spotted owls and the numbers of spotted owls continue to decline, then we would need to develop an alternate or contingency plan. At this point, however, we view the actions in the final Recovery Plan to be the most likely to succeed.

**Comment TB5:** Barred owls are part of the natural system and so should not be controlled; it is survival of the fittest.

*Response:* Whether humans facilitated the range expansion of barred owls from eastern to western North America is a subject of debate. Regardless of the human role in the range expansion, we believe the presence of barred owls is a threat to the continued existence of spotted owls and, by regulation, we need to address this threat in our Recovery Plan in a manner that will result in spotted owl recovery.

**Comment TB6:** The plan should provide some incentives to pursue controlling of barred owls.

*Response:* Control of barred owls, if deemed feasible and necessary, will be conducted by government entities. The Service recognizes the importance of managing barred owls and needs no additional incentives to initiate control activities.

**Comment TB7:** Portions of the plan should be reworded to show that a causal link has not been established showing that barred owls negatively affect spotted owls. Consequently, specific prescriptions relative to control of barred owls (*e.g.*, Recovery Action 6, Appendix G) should be removed from the plan.

*Response:* Appendix G of the draft Recovery Plan has been eliminated from the final Recovery Plan. The final Plan provides a decision flow chart for barred owl actions. The Service acknowledges a specific causal negative relationship between barred and spotted owls has not been fully described in the scientific literature. Yet, the Service must base its Recovery Plan on professional scientific opinion, which strongly indicates barred owls are a threat to spotted owls. There is always risk and uncertainty involved in Recovery Planning, and the Service

believes the true risk here is underestimating the seemingly extreme threat from barred owls.

## Fire

**Comment TF1:** The plan underemphasizes the threat from fire; for example, wildfire has accounted for more habitat loss in the past 10 years than has timber harvest.

*Response:* We disagree; the plan recognizes the loss of spotted owl habitat from fire since 1994 and includes Recovery Actions that are specific the threat from fire. The final Recovery Plan also describes a non-reserve based habitat management strategy for the more fire-prone physiographic Provinces (*i.e.*, the east-side of the Cascades Crest Provinces) in Washington and Oregon and the California Cascades Province.

**Comment TF2:** The plan overemphasizes the threat from fire.

*Response:* Input from fire scientists during development of the final Recovery Plan re-emphasized the need to incorporate fire risk management across the range of the spotted owl, and especially for the fire-prone, dry forest Provinces in the face of increasing loss of owl habitat to uncharacteristic wildfire.

**Comment TF3:** Salvage logging should be banned, or not encouraged, especially in reserves.

*Response:* Appendix B has been deleted and post-fire harvest recommendations stress the need to conserve large trees, both living and dead, as they are important components to the restoration of owl habitat after wildfire events.

**Comment TF4:** The plan should not standardize salvage prescriptions, and should not include such site-specific considerations such as limiting the use of shaded fuels breaks.

*Response:* Appendix B has been deleted and there are no standardized salvage prescriptions in the final Recovery Plan other than recommendations to conserve the remaining large trees and snags.

**Comment TF5:** The plan should encourage managing forests within historic fire regimes.

*Response:* The final Recovery Plan does encourage managing forests within historic fire regimes in the fire prone, dry forests.

**Comment TF6:** The plan should develop clear criteria to balance fuels reduction and conservation of spotted owl habitat.

*Response:* The final Recovery Plan does recommend that strategies for fuels reduction be developed, and provides general guidance regarding fuels-reduction treatments. Specific criteria will be helpful as the Recovery Plan is implemented.

**Comment TF7:** There should be more reserves or larger reserves to compensate for forests lost to fires and other disturbances.

*Response:* In the fire prone dry forests in the East Cascade Provinces of Washington and Oregon and the Cascade Province in California, the final Recovery Plan recommends a landscape strategy in place of a static MOCA network.

**Comment TF8:** Fuels reduction in reserves should rely on non-commercial, thin-from-below management.

*Response:* The Service agrees thinning from below management is a viable fuel reduction method in the reserves. If recovery of commercial products is a by-product of the action it will assist in paying for the treatment – however, from a recovery planning perspective, the treatment prescriptions should be designed to reduce fire risk, not to provide commercial products.

**Comment TF9:** The plan should suggest specific objectives and desired outcomes for management of forests to reduce fire risk that are stratified by forest type and fire regime.

*Response:* The final Recovery Plan addresses these issues and will rely upon the products of work groups formed to develop specific strategies for owl recovery in the fire-prone, dry forests based on forest types and fire regimes.

**Comment TF10:** The plan has higher expectations for percentages of suitable habitat than does FS LSR Assessments (e.g., those in the Eastern Washington Cascades); many dry forests cannot support 60 percent spotted owl habitat, so such a requirement would severely restrict possible management; the plan should not recommend against management in fire-prone forests.

*Response:* The final Recovery Plan recommends a landscape strategy that addresses fire risk reduction and need to maintain and restore owl habitat in the context of the what is ecologically-sustainable in the fire prone, dry forests.

**Comment TF11:** The plan should include a Recovery Action to monitor/research how fuels-reduction treatments affect: the risk of loss of spotted owl habitat; use of forests by spotted owls; prey of spotted owls; and interactions between spotted owls and barred owls.

*Response:* The final Recovery Plan has recovery actions on these topic areas.

**Comment TF12:** Recovery Action 21 (use of best-available scientific information relative to salvage activities) should be priority 1, not 3.

*Response:* Priority 1 is placed on actions that are necessary to keep the species from going extinct. Recovery Action 21 is not in that category.



## Climate

**Comment TC1:** The plan underemphasizes the threat from climate change.

*Response:* We added a Recovery Action to assess how climate change affects spotted owls and their habitat over time and the need to adjust protection of spotted owl habitat relative to these changing effects.

**Comment TC2:** The plan overemphasizes the threat from climate change.

*Response:* We disagree. Our treatment of climate change in the draft Recovery Plan was very limited, and we added a Recovery Action concerning climate change. It is unclear the specific negative effects climate change will have upon the spotted owl and its habitat, though we can estimate the general categories of these possible threats. Given such estimates, it is imprudent to ignore such a possible threat.

**Comment TC3:** Reserves should be larger to accommodate climate change.

*Response:* Climatic changes may amplify current management challenges in the Pacific Northwest including habitat fragmentation, urbanization, invasive species, disease, and parasites. However, at this time we do not have adequate information to accommodate or specifically predict these possible future changes. We anticipate that modifications to our recovery strategy may be needed in the future as these changes become apparent, and we added a Recovery Action to that effect.

**Comment TC4:** There should be a Recovery Action to address possible effects from climate change.

*Response:* We added a Recovery Action to assess how climate change affects spotted owls and their habitat over time and the need to adjust protection of spotted owl habitat relative to these changing effects.

## Disturbance

**Comment TD1:** The plan does not address disturbance to spotted owls in reserves.

*Response:* Effects of harassment of spotted owls due to activities such as road-building and timber harvest would be analyzed during Section 7 consultations with the Service. There are no known population-level impacts anticipated as a result of disturbance in the reserves.

## Disease

**Comment TD11:** The plan should include accommodation for effects from West Nile Virus.

*Response:* As presented in the final Recovery Plan, there are no known effects to spotted owls from West Nile Virus.

**Comment TDI2:** The plan should include a description of the effects from Sudden Oak Death and accommodation in reserves for habitat lost to it.

**Response:** The final Recovery Plan does discuss the effects of Sudden Oak Death to owl habitat. At this time it was not deemed necessary to do anything specific to address the disease as it was not considered a significant threat. It will remain on the watch list.

## Monitoring

**Comment M1:** Recovery Criterion 3 states: "...within a period of 5 consecutive years, in each State at least 80 percent of [MOCA 1s][large habitat blocks] contain at least 15 occupied spotted owl sites." The Plan should explicitly state which agency is responsible for monitoring of many hundreds of spotted owl sites; land-management agencies should not be responsible for this.

**Response:** The Plan projects potential costs and responsible parties, but does not determine agency responsibilities; those decisions will continue to be made cooperatively by the Service, BLM, FS, and other parties involved in monitoring.

**Comment M2:** The current monitoring approach using well-distributed demographic study areas is yielding crucial information. This data set exceeds 20 years and provides detailed information on the population dynamics of the species that would no longer be obtained using methods based only on monitoring occupancy (presence or absence) of sites by owls, as is being considered. Additional monitoring approaches should complement the current approach, not replace it.

**Response:** For the purposes of this final Recovery Plan, the monitoring needs to be capable of determining whether the Recovery Criterion has been met. The specifics of how the monitoring will be conducted will be decided after the Plan is finalized, through well-established practices and possibly with assistance from the Northern Spotted Owl Work Group.

## Costs

**Comment C1:** The plan should include costs and benefits from additional timber harvest facilitated by the plan.

**Response:** The final Recovery Plan is not a land use plan and as such does not facilitate harvest of timber. Assessment of the cost and benefits to commodity and non-commodity products are addresses in NEPA documents during the development of land use plans by agencies that manage spotted owl habitat using the guidance provided by the Recovery Plan.

**Comment C2:** The plan should include total costs, not leave many as "TBD" (to be determined).

*Response:* We included all costs when relatively accurate estimates could be developed at this time.

**Comment C3:** The plan should include costs associated with coordination needed among agencies (BLM, FS, and the Service), among BLM districts, and among FS districts to identify Option 2 habitat blocks.

*Response:* Based on comments from the public and peer reviews, Option 2 was not included in the final Recovery Plan.

**Comment C4:** The plan underestimates costs (*e.g.*, relative costs of fuels reductions attributable to spotted owls; habitat inventories, aerial photographs, and mapping; managing habitat-capable acres).

*Response:* We use the best-available information to estimate costs recognizing the values are not as accurate or precise as desired by all parties. As we gain experience through implementation the costs may be refined.

**Comment C5:** The plan should include estimates of the loss of timber revenues due to carrying out the plan.

*Response:* Assessment of the cost and benefits to commodity and non-commodity products are addresses in NEPA documents during the development of land use plans by agencies that manage spotted owl habitat using the guidance provided by the Recovery Plan.



