

1. Page VIII. We recommend that the Executive Summary clearly state that Conservation Support Areas (CSAs), as mapped, apply to both Options 1 and 2, and are not subject to a "rule set" mapping exercise under either Option 2.
2. Page 18. The Recovery Plan describes the ability for minor changes to modify MOCA and CSA boundaries under Option 1. There is no similar process described under Option 2. If Option 2 is selected, we recommend that the Recovery Plan clarify how much flexibility land management agencies have in adjusting habitat block boundaries over time.
3. Page 28. The Recovery Plan states that the recovery actions outlined should be done concurrently. In recognition that funding is limited, we recommend that the actions be reorganized and listed by the Priority 1, 2, and 3 given to each action in the Schedule and Cost Table.
4. Page 29, Recovery Action 4. There are other existing data sets besides the demographic study areas that could be examined relative to barred owls and spotted owl site occupancy, such as those used for Zabel et al. (2003). We recommend that these data also be evaluated.
5. Page 29, Recovery Action 5. There are several separate actions identified under Recovery Action 5. We believe that some of these actions warrant a higher priority than others. As an example, we think that expending valuable resources on analyzing the potential for habitat and resource partitioning is low. See Gutierrez et al. (2007) for recommendations on how to prioritize limited funding.
6. Page 33. The information used to develop the percentages of Habitat Capable Acres in Suitable Habitat may not represent the best available information for all Provinces. We recommend that the Recovery Plan consider the findings of Zabel et al. (2003) in establishing the percentage thresholds in northern California. Zabel et al. (2003) provides information relative to spotted owl presence on Federal lands. They found that the best fitting model for predicting presence was at the core area, or 200 hectare scale. The highest likelihood of presence at the 200 hectare scale occurred with the following habitat composition: 140 hectares nesting/roosting habitat (70%), and 60 hectares foraging habitat (30%). We recommend that the Recovery Plan also consider the Zabel et al. (2003) likelihood of occupancy when mapping MOCAs. This study found that LSR/DCAs (upon which MOCAs are based) were not always located in areas that would maximize the likelihood of occupancy (e.g., within the Mendocino NF).
7. Page 33. We recommend that the Recovery Plan clarify its terminology, as it seems to mix terms like "suitable habitat" and "high quality nesting habitat". We recommend that the unnumbered Table on page 33 state "Percentage of habitat-capable acres in high quality nest habitat". These thresholds are referring to acres that should be in a habitat quality similar to that used by 90% of the owl pairs for nesting and roosting in that province. We think it would help to clarify that areas consisting mostly of foraging habitat will not meet the stated thresholds.

8. Page 36. We recommend that the section on spotted owl habitat contain more discussion and emphasis on the importance and quality of habitat in the nesting core area versus the rest of the owl home range.
9. Pages 36 – 40. Consider adding a brief discussion of Sudden Oak Death and the potential for impacts to suitable habitat in California and Southern Oregon.
10. Page 37 Recovery Action 20. In some parts of the spotted owl's range, wildfire can be a major influence in habitat suitability. Consider expanding the discussion of effects of wildfire, and providing more specific guidance on what types of questions should be addressed based on current research concerning the effects of fire on owl habitat and owl prey ecology.
11. Page 40 Delisting Factor D. We believe this section could benefit by referencing the numerous HCPs (both completed and in progress) that address the conservation needs of the northern spotted owl. This section could be revised to highlight the benefits of the ESA section 10 permit program, and the assurances that this program provides to both landowners and the conservation of the spotted owl.
12. Page 55, Recovery Action 34. Recovery Action 34 states that no special management objectives are necessary for providing dispersal habitat. However, under the Northwest Forest Plan, dispersal habitat is provided for by a combination of elements, such as riparian reserves, 15 percent leave-trees in harvest units, and retention of 100 acres of suitable habitat around known activity centers. If the assumption is that these measures will remain in place and have substantial contribution to providing dispersal habitat, then we recommend that this assumption be stated in the Recovery Plan.
13. Page 86. We recommend that the table on implementation and cost estimates identify the responsible parties and timeframes for identifying the network of habitat blocks under Option 2. The table includes other actions related to these habitat blocks, but leaves out the timeframe for when they should be established. Additionally, we recommend that the table be reorganized such that actions are grouped by Priority 1, 2, and 3 to match text in comment 2 above.
14. We recommend that the Recovery Plan consider other sources of data pertaining to the amount of potentially suitable NSO habitat. Lint (2005) estimated approximately 2.5 million acres of habitat capable area of mean habitat suitability in the California Klamath province alone. Alternatively, the map used by Zabel et al. (2003) estimated just over 2 million acres of suitable nesting, roosting and foraging habitat for all 5 forests within the Cascades and Klamath provinces in northern California within the range of the NSO. Because the large estimates of suitable habitat produced by Lint (2005) were used to establish MOCA habitat thresholds, the likelihood of recovery may be overestimated.
15. In Appendix 10 of Courtney et al. (2004), B. Noon succinctly summarized the modeling efforts that were the basis for previous NSO plans. In particular the model suggested the

need for patches containing ≥ 20 pairs of owls. We recommend that the Recovery Plan explain why the Recovery Team chose to reduce the threshold to 15 pairs. It is unclear if additional modeling or analysis was used to update the reference cited above.

16. Appendix F. Under FEMAT, Option 9 (the NWFP) is 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. It would be helpful if this Recovery Plan could provide a similar measure of projected success.

References:

- Courtney, S.P., J.A. Blakesley, R.E. Bigley, M.L. Cody, J.P. Dumbacher, R.C. Fleischer, A.B. Franklin, J.F. Franklin, R.J. Gutiérrez, J.M. Marzluff, L. Sztukowski. 2004. Scientific evaluation of the status of the northern spotted owl. Sustainable Ecosystems Institute. Portland, Oregon. September 2004.
- Gutierrez, R.J., M. Cody, S. Courtney, and A.B. Franklin. 2007. The invasion of barred owls and its potential effect on the spotted owl: a conservation conundrum. *Biological Invasions* 9:181-196.
- Lint, J. 2005. Northwest Forest Plan – The First Ten Years (1994-2003): Status and trend of northern spotted owl populations and habitat, PNW Station Edit Draft (Lint, Technical Coordinator, 2005). USDA Forest Service, PNW Research Station, PNW-GTR-2005. Draft. Portland, OR 230pp
- Zabel, C.J., J.R. Dunk, H.B. Stauffer, L.M. Roberts, B.S. Mulder, and A. Wright. 2003. Northern spotted owl habitat models for research and management application in California (USA). *Ecological Applications* 13(4):1027-1040.