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United States
Department of
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Forest Service

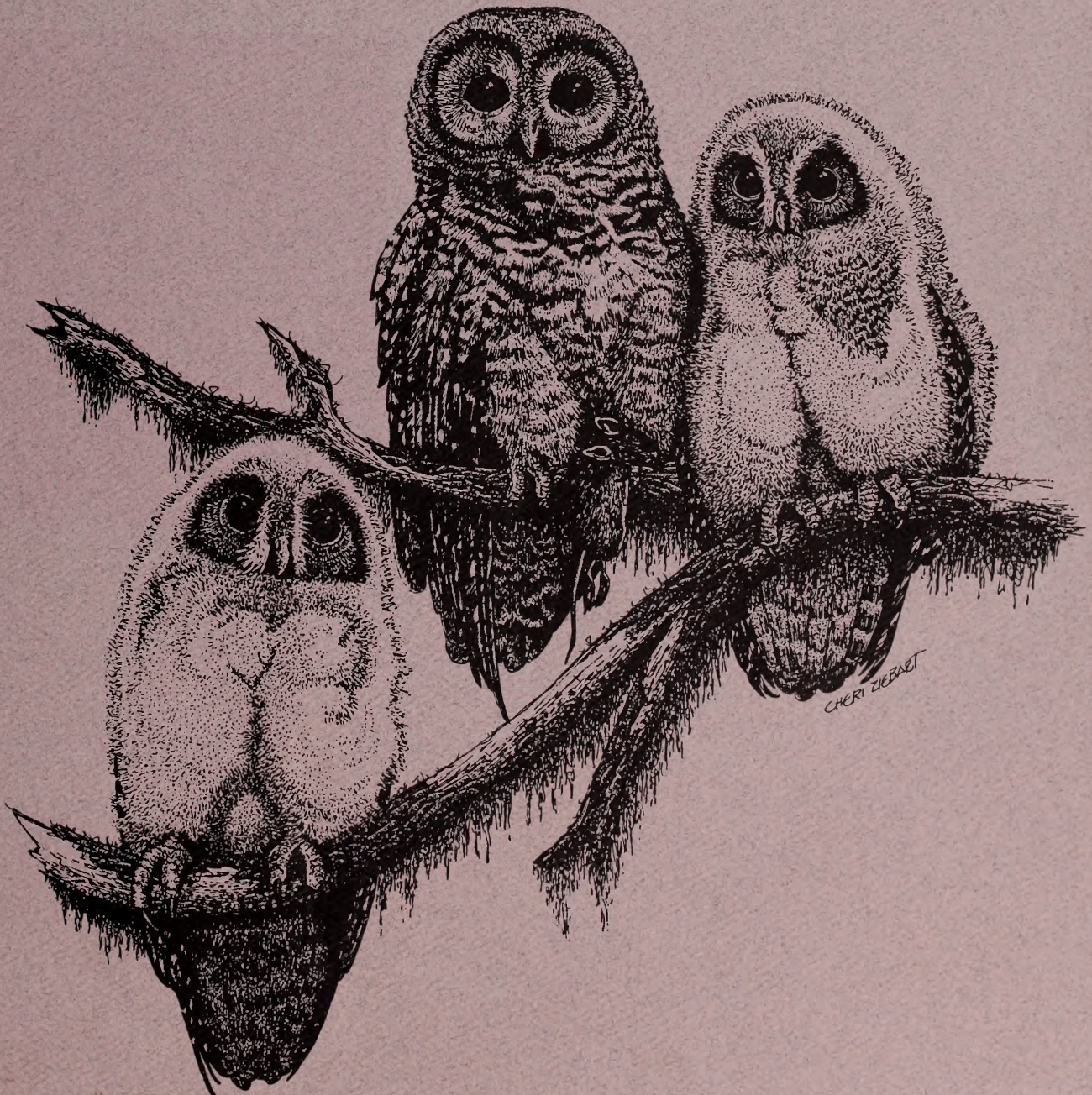
National
Forest
System

September 1991



Summary Draft Environmental Impact Statement

on Management for The Northern Spotted Owl in The National Forests



Notice To Readers

The following information is provided to assist you in reviewing this document, in receiving the information you would like, and in participating in the public comment process.

- Scientific terms and acronyms used in this document are defined in the Glossary. This document deals specifically with the northern spotted owl. All references to “owl” or “spotted owl” refer only to the northern spotted owl, unless specifically identified as another species or sub-species.
- You will notice that postcards are provided with your document.

If you initially received a copy of the Summary only, you will find a postcard to request a full copy of the Draft Environmental Impact Statement and the accompanying appendices and maps.

There is also a postcard to request a full copy of the original Report of the Interagency Scientific Committee To Address the Conservation of the Northern Spotted Owl (ISC).

The final postcard is a request to remain on the mailing list to receive either a summary or full copy of the Final Environmental Impact Statement. **You must return this card to remain on the mailing list.** You may also use this card to make any address correction.

The postage is pre-paid so the postcards do not require a stamp if mailed within the United States.

- The comment period for this draft document ends December 27, 1991. We realize this date is in the middle of the holiday season, so we encourage you to send us your comments early. The instructions on submitting written comments can be found in the Summary.

You may also participate in the comment process through public hearings. Three hearings have been scheduled.

- October 15, 1991 in Olympia, Wa. at the Washington Performing Arts Center
- October 17, 1991 in Salem, Or. at Columbia Hall in the Fairgrounds
- October 21, 1991 in Redding, Ca. at the Holiday Inn

All hearings will be conducted from 1pm to 4pm, and from 6pm to 9pm. Members of the public who wish to speak at these hearings will be asked to register at the door. Although a verbatim transcript of the speakers comments will be taken by a court recorder, you are also encouraged to submit written comments. Each speaker will be limited to 3 minutes. The hearings will be conducted by a hearings officer, and Forest Service officials will be present to hear the comments.

Abstract

The Forest Service proposes to manage the National Forests for habitat that will ensure the viability of the northern spotted owl in its range. Alternative A ("No-Action") is the management direction given in the Regional Guides and Regional Guide Supplement. Alternative B (the proposed action and the preferred alternative) would adopt the Conservation Strategy of the Interagency Scientific Committee to address the conservation of the northern spotted owl. Alternative C would adopt the Conservation Strategy and further apply its standards and guidelines to the critical habitat identified by the U.S. Fish and Wildlife Service on May 6, 1991. Alternative D would adopt the Conservation Strategy and further apply its standards and guidelines to all northern spotted owl nesting, roosting, and foraging habitat.

Notice

To enable the Forest Service to fully analyze and use all information acquired during the review of this Draft Environmental Impact Statement (DEIS), reviewers need to provide their comments during the established review period. Reviewers have an obligation to structure their participation so that it is meaningful and alerts the agency to their position and contentions (*Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 US 519, 553 (1978)). Another court ruling established that environmental objections that could have been raised during the review of the DEIS may be waived if they are not raised until after completion of the Final Environmental Impact Statement (FEIS) (*Wisconsin Heritages, Inc. v. Harris*, 490 F. Supp. 1334, 1338 (E. D. Wis. 1980)).

Reviewers should note that the Secretary of Agriculture is the responsible official for this proposed action. This means that no administrative review ("appeal") will be available on the Record of Decision through the process specified in 36 CFR 217. Therefore, comments on the DEIS are particularly crucial.

Comments on this DEIS should be as specific as possible, and address the adequacy of the statement or the merits of the alternatives discussed, or both.

Summary

The Forest Service is preparing an environmental impact statement to disclose the probable environmental consequences of four alternative management plans to provide habitat for the northern spotted owl in National Forests.

This Draft Environmental Impact Statement presents alternative ways of maintaining a viable spotted owl population and the effect those alternatives will have on other forest resources and the human environment.

Public Comments

This is a summary of the Draft Environmental Impact Statement. The final decision on which alternative to implement has not been made. The Draft Environmental Impact Statement is being distributed to the public for their comments. The most helpful comments are those that are as specific as possible and address the alternatives or the analysis.

Prior to the Final Environmental Impact Statement and making a final decision, comments received within the public comment period will be analyzed and considered. To be considered, comments must be received by **December 27, 1991**.

All written comments should be sent to:

Jerald N. Hutchins, Team Leader
Northern Spotted Owl EIS Team
P.O. Box 3623
Portland, Oregon 97208-3623

Information about the public hearings, how to receive the complete Draft Environmental Impact Statement and other documents, and how to remain on the mailing list, is at the back of this Summary.

This Environmental Impact Statement

The Forest Service is preparing this environmental impact statement to comply with a court order issued on May 23, 1991 by U.S. District Court Judge William L. Dwyer requiring the Forest Service to prepare a management plan for the spotted owl and an environmental impact statement. They are to be produced and in effect by March 1992.

Earlier Studies This is not the first time the Forest Service and other resource management agencies have addressed the issue of spotted owl habitat management in an environmental impact statement or similar planning documents. In fact, this environmental impact statement relies heavily on earlier documents such as:

- the Interagency Scientific Committee (the “Thomas Committee”) Report: A Conservation Strategy for the Northern Spotted Owl that was issued in May 1990;
- the Final Supplement to the Environmental Impact Statement for an Amendment to the Pacific Northwest Regional Guide issued in 1988; and
- the Regional Guide for the Pacific Southwest Region issued in August, 1984.

When Completed

With the completion of the final environmental impact statement and publication of the Record of Decision, the Forest Service will have:

- 1) addressed the court order “to submit to the court and have in effect by March 5, 1992 revised standards and guidelines to ensure the northern spotted owl’s viability, together with an environmental impact statement, as required by NFMA (the National Forest Management Act) and its implementing regulations” (*Seattle Audubon Society v. Evans, et al.*, No. 89-160WD), and
- 2) amended the Regional Guide and Forest Plans for the Pacific Northwest Region, and amended the Regional Guide for the Pacific Southwest Region, to provide management direction to the National Forests within the range of the northern spotted owl. This management direction will apply immediately to projects (including timber sales) in the National Forests, and will be incorporated into those Forest Plans now being prepared. The allowable sale quantity (ASQ) will be adjusted to reflect the standards and guidelines and the areas designated by the alternative that is selected.

The alternative selected following the Final Environmental Impact Statement will be implemented on the National Forests within the range of the northern spotted owl. Standards and guidelines and management direction not directly superseded by the selected alternative will remain in effect. If Alternative A is selected, National Forest managers will follow the management direction in

the Regional Guides and Forest Plans that exist now. If Alternative B, C, or D is selected, National Forest managers will follow the new standards and guidelines that amend the Regional Guides and Forest Plans.

Where

These alternatives apply to the lands administered by the Forest Service within the range of the northern spotted owl. Five of those National Forests are in Washington, eight are in Oregon, and four are in northern California. The environmental consequences (or “impacts” or “effects”) presented here are those predicted to happen on those 17 National Forests.

The range of the northern spotted owl is shown on the following map. The 17 National Forests analyzed are shown on it also. (See Figure S-1.)

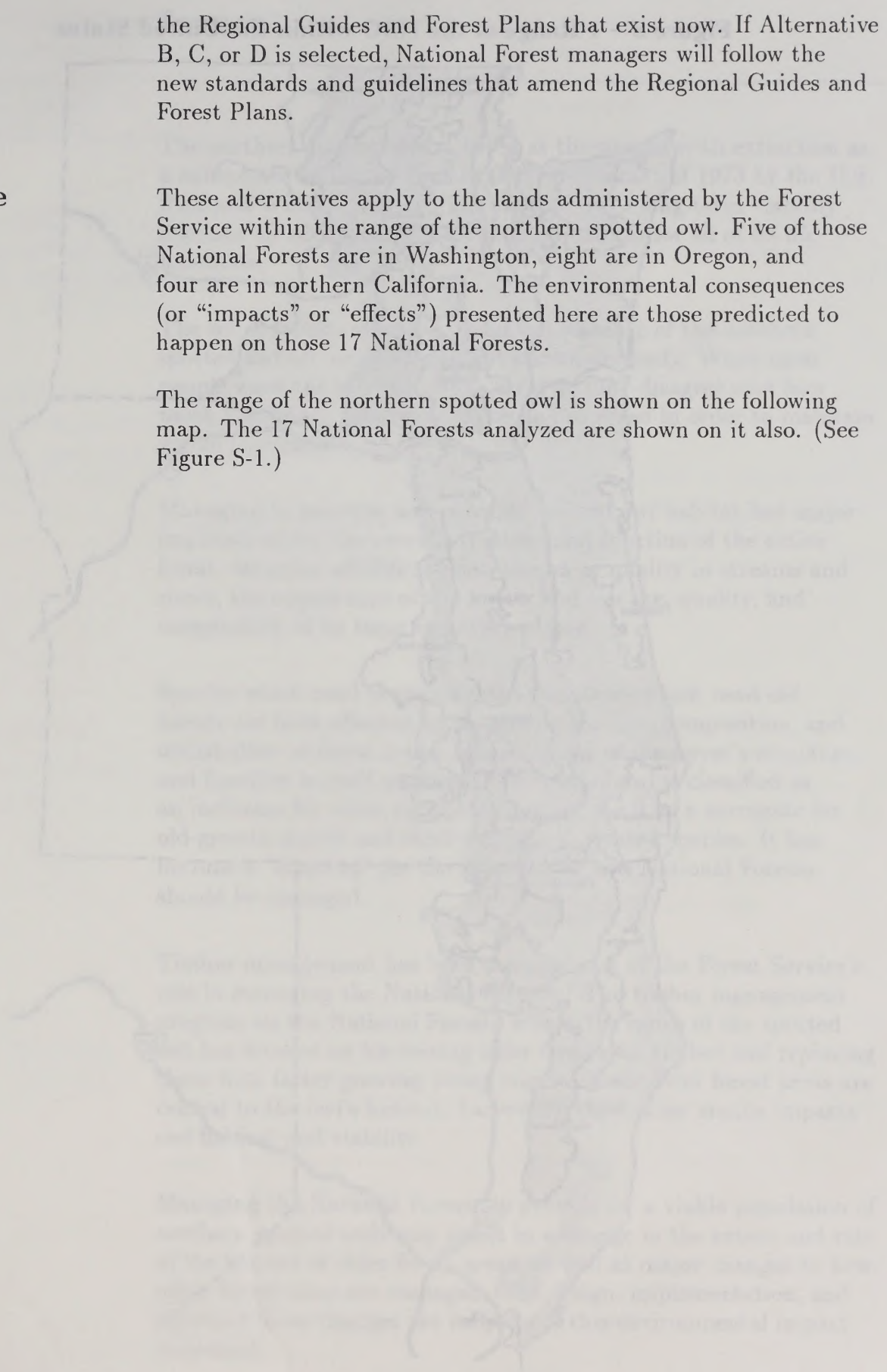
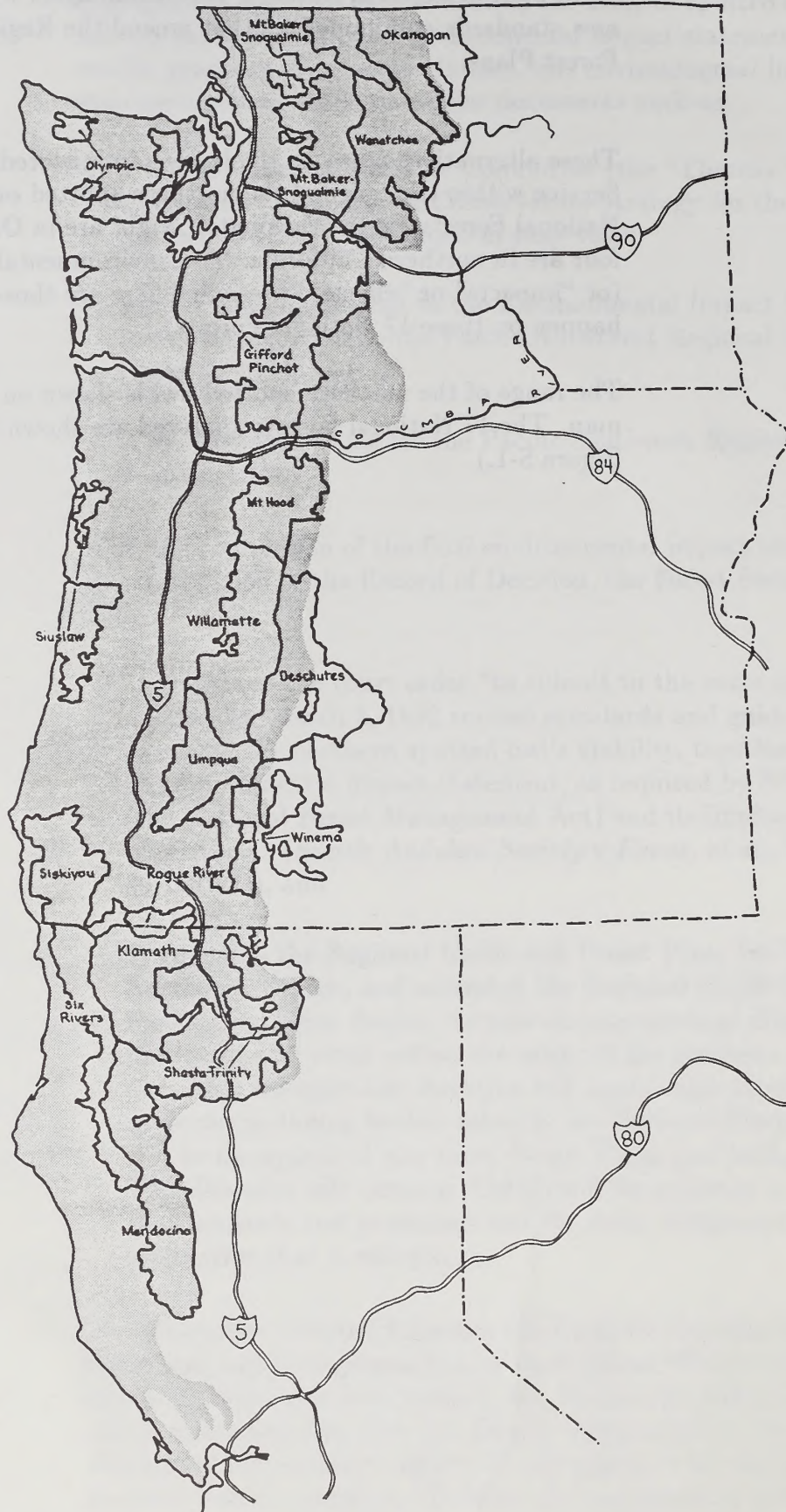


Figure S - 1 Range of the NSO within the United States



Issues

The northern spotted owl is listed as threatened with extinction as a subspecies under the Endangered Species Act of 1973 by the U.S. Fish and Wildlife Service. The spotted owl's long-term viability depends on adequate, well-distributed habitat for all of its life functions.

The set of factors affecting long-term viability of the northern spotted owl are complex and not known precisely. While most people want the spotted owl to survive, they disagree over how much and where habitat needs to be protected in order to maintain viable populations.

Managing to preserve and enhance spotted owl habitat has major implications for the overall structure and function of the entire forest, for other wildlife species, the water quality in streams and rivers, the appearance of the forest, and the age, quality, and composition of its trees and other plants.

Species which need young forests and species which need old forests are both affected by changes in the age, composition, and distribution of forest areas. The diversity of the forest's structure and function is itself an issue. The spotted owl is classified as an indicator for other species, and many see it as a surrogate for old-growth stands and other old-growth related species. It has become a "stand-in" for the debate over how National Forests should be managed.

Timber management has been a major part of the Forest Service's role in managing the National Forests. The timber management program on the National Forests within the range of the spotted owl has focused on harvesting older forests for timber and replacing them with faster growing young stands. Since older forest areas are central to the owl's habitat, harvesting these older stands impacts owl habitat and viability.

Managing the National Forests to provide for a viable population of northern spotted owls may result in a change in the extent and rate of the harvest of older forest areas, as well as major changes to how other forest areas are managed. The design, implementation, and effects of those changes are subjects of this environmental impact statement.

Summary

The logs and other wood from the National Forest's timber management program are an important source of raw material for the wood products industry. This industry's principal employment is in small cities and towns and in rural areas. In addition, a quarter of the receipts from timber sales go to county governments for roads and schools.

Reductions in the amount of timber sold for harvest have direct effects on the employment and economic health of the forestry and woods products industries. These in turn immediately affect the economic vitality of the communities dependent on them, and the well-being of their workers and families.

There are other human uses of the National Forests that will be enhanced or curtailed in managing habitat for the spotted owl. Recreation, mining, road construction and road use may all be affected.

The Alternatives

Each alternative is a plan for managing habitat for the northern spotted owl on the lands administered by the Forest Service. Each consists of different designated areas managed primarily for spotted owl habitat, standards and guidelines to direct activities in those areas and the rest of the Forest, and an adjustment and implementation process.

Consultation and conferencing under Section 7 of the Endangered Species Act with the U.S. Fish and Wildlife Service is being conducted for all alternatives.

Standards and Guidelines

The standards and guidelines that guide activities in the spotted owl habitat in National Forests are detailed. They are presented in full in Chapter 2 of the Draft Environmental Impact Statement. Here is a very brief summary of the standards and guidelines that apply to the types of areas focused on for spotted owl habitat in this document.

Spotted Owl Habitat Areas (SOHAs)

Spotted Owl Habitat Areas (SOHAs) were established in the Regional Guides (as amended) for the two Forest Service Regions comprised of Washington, Oregon, and California. They are areas ranging from 3,000 acres on the Olympic Peninsula to 1,000 acres in southern Oregon and in California. These areas are to be managed to maintain habitat for spotted owls now and over the long-term, using silvicultural activities that best fit local conditions.

Habitat Conservation Areas (HCAs)

Habitat Conservation Areas (HCAs) are large blocks of habitat to support multiple pairs of spotted owls. Ideally they support 20 or more pairs of owls of which most are over 25,000 acres. HCAs of smaller acreages are also established around known owl pairs where habitat conditions do not permit or require the larger HCAs. HCAs were identified by the Interagency Scientific Committee in their Conservation Strategy.

There are a number of management requirements for HCAs, most of which limit resource development in order to preserve the type and quality of habitat needed by the spotted owl.

Summary

Dispersal Habitat

The forest outside HCAs (also called the “Forest Matrix”) is needed by the spotted owl for movement, or dispersal, between HCAs. The Interagency Scientific Committee determined that to assure viability of the spotted owl, these lands that are suited for timber production must be managed using “the 50-11-40 rule”.

“**The 50-11-40 rule**” states that in each quarter township (nine square miles) 50 percent of the forest must be maintained in (or managed to achieve) stands where the trunk diameter (breast high) of the trees is 11 inches or more, and the forest canopy is closed over 40 percent of the area.

Critical Habitat Areas

On May 6, 1991, the U.S. Fish and Wildlife Service identified Critical Habitat Areas which generally enlarged the boundaries of the HCA’s to defined legal boundaries. No particular management regime was prescribed by the Fish and Wildlife Service for Critical Habitat Areas. Alternative C in the Draft Environmental Impact Statement applies the standards and guidelines of the HCAs to the Critical Habitat Areas.

All Nesting, Roosting, and Foraging Habitat

As the name indicates, this is habitat that has the characteristics known to be most suitable for northern spotted owl nesting, roosting, and foraging. It is generally mature and old-growth forest stands characterized by large coniferous trees (over 30 inches in diameter), 60 to 80 percent canopy closure, broken tops and cavities in the large live trees, and numerous large snags and downed logs. It occurs as large areas and as small patches. Alternative D in the Draft Environmental Impact Statement applies the standards and guidelines of the HCAs to all nesting, roosting, and foraging spotted owl habitat in the National Forests.

The Four Alternatives

Here are brief descriptions of the four alternatives that were studied in detail. Full descriptions of the alternatives, and the standards and guidelines that would apply to the National Forests, are in Chapter 2 of the Draft Environmental Impact Statement.

Alternative A - Spotted Owl Habitat Areas (“No-Action Alternative”)

Alternative A would manage the National Forests as directed in the Regional Guides and Forest Plans. Those guides and plans prescribe management areas known as Spotted Owl Habitat Areas (known as SOHAs) for spotted owl habitat.

This alternative meets the Council of Environmental Quality’s requirements for a “no-action” alternative required in environmental impact statements.

Alternative B - Interagency Scientific Committee Conservation Strategy

Alternative B is the preferred alternative for this Draft Environmental Impact Statement.

This alternative would manage the National Forests using the Conservation Strategy presented by the Interagency Scientific Committee in their 1990 report “A Conservation Strategy for the Northern Spotted Owl”.

The Habitat Conservation Areas (HCAs) designated by the Interagency Scientific Committee on the National Forests would be managed to comply with the standards and guidelines in their report. Timber harvest would be very limited and other development activity restricted in HCAs. The National Forest outside the HCAs that is suitable for timber production would be managed to maintain or achieve the standard of the 50-11-40 rule.

Summary

Alternative C - ISC Conservation Strategy Plus Critical Habitat

This alternative adopts the Conservation Strategy presented by the Interagency Scientific Committee and further applies it to the Critical Habitat Areas identified by the U.S. Fish and Wildlife Service in their May 6, 1991 proposal. Timber harvest would be very limited and other development activity restricted in HCAs and in Critical Habitat Areas. The National Forest outside the HCAs and Critical Habitat Areas that is suitable for timber production would be managed to maintain or achieve the standard of the 50-11-40 rule.

Alternative D - ISC Strategy plus All Nesting, Roosting, and Foraging Spotted Owl Habitat

This alternative adopts the Conservation Strategy presented by the Interagency Scientific Committee and further applies it to all northern spotted owl nesting, roosting, and foraging habitat. Timber harvest would be very limited and other development activity restricted in HCAs and in all nesting, roosting, and foraging habitat. The National Forest outside the HCAs and nesting, roosting, and foraging habitat that is suitable for timber production would be managed to maintain or achieve the standard of the 50-11-40 rule. (Though HCA acres can not be used in calculating the 50 percent standard of the 50-11-40 rule, nesting, roosting, and foraging areas can be.)

Designated Areas

A central element of each alternative is the designated areas managed primarily for spotted owl habitat. The management of these areas varies by alternative. The designated areas managed primarily for spotted owl habitat are, in:

- Alternative A: Spotted Owl Habitat Areas (SOHAs)
- Alternative B: Habitat Conservation Areas (HCAs)
- Alternative C: Habitat Conservation Areas (HCAs) Plus Critical Habitat Areas
- Alternative D: Habitat Conservation Areas (HCAs) Plus All Nesting, Roosting, and Foraging Habitat.

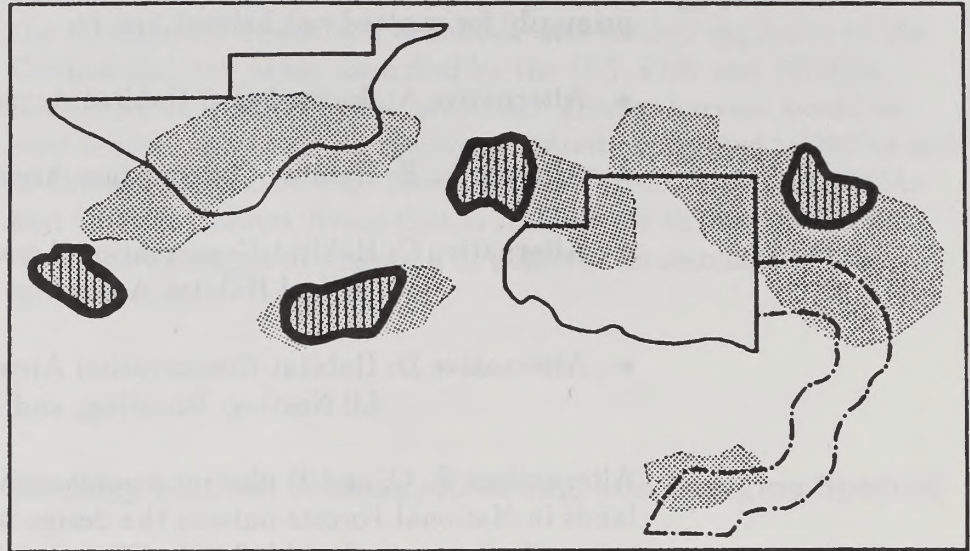
Alternatives B, C, and D also incorporate management direction for lands in National Forests outside the designated areas managed primarily for spotted owl habitat. These lands are known as the “Forest Matrix;” they provide dispersal habitat for the movement of owls between HCAs.

Schematic Maps

The four schematic maps in Figure S-2 represent the designated areas managed primarily for spotted owl habitat in the different alternatives. All are based on a typical part of National Forest with its spotted owl habitat, reserved lands, and some lands not suited for timber production. The heavily outlined areas in each map represent the designated areas managed primarily for spotted owl habitat under that alternative.

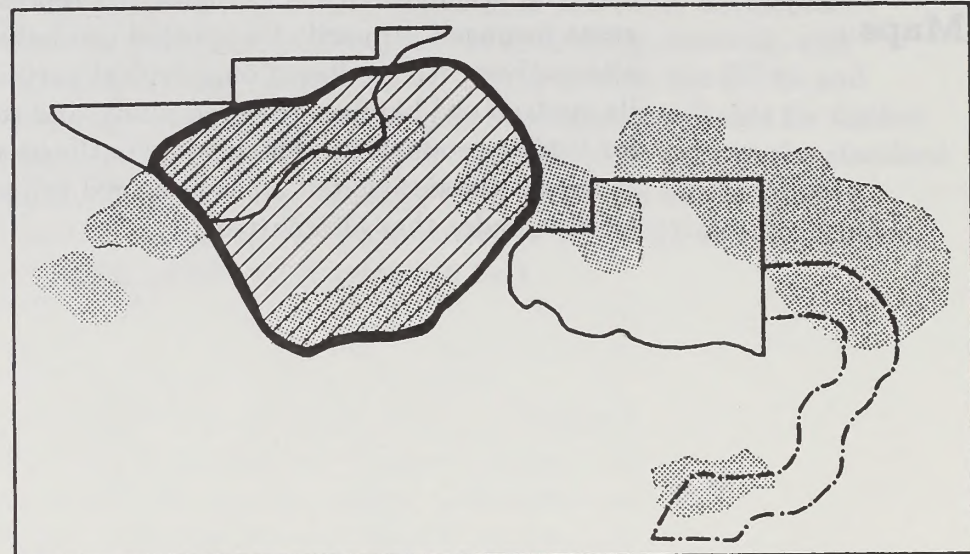
Figure S – 2 Designated Areas Managed Primarily for Spotted Owl Habitat by Alternative (Schematic)

Alternative A



Schematic representation of designated areas managed primarily for spotted owl habitat in Alternative A, Spotted Owl Habitat Area (SOHA).

Alternative B



Schematic representation of designated areas managed primarily for spotted owl habitat in Alternative B, Habitat Conservation Area (HCA).

Legend (Applies to all four schematic maps)



Northern spotted owl nesting, roosting, and foraging habitat

Spotted Owl Habitat Area (SOHA)

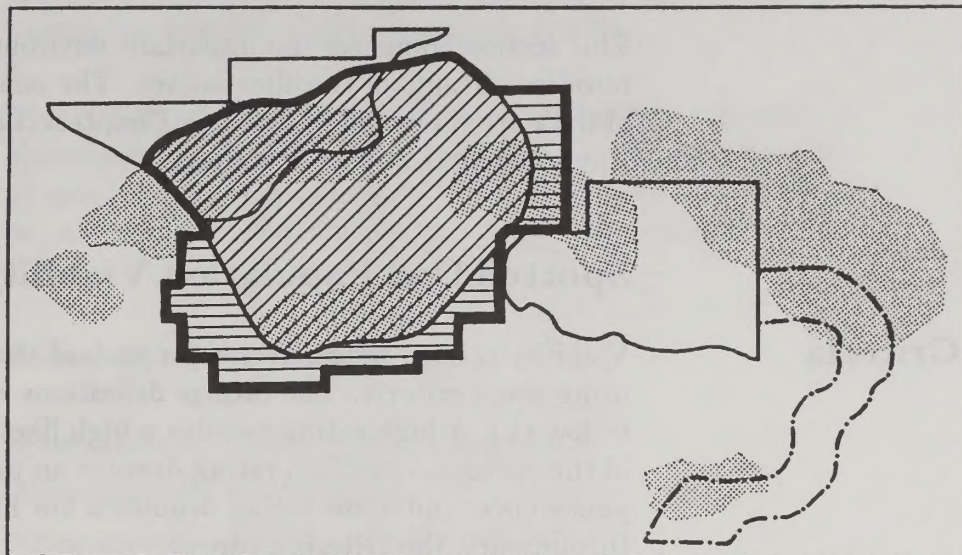


Lands not suited for timber production or no harvest scheduled

Reserved Lands (e.g. Wilderness and National Manuments)

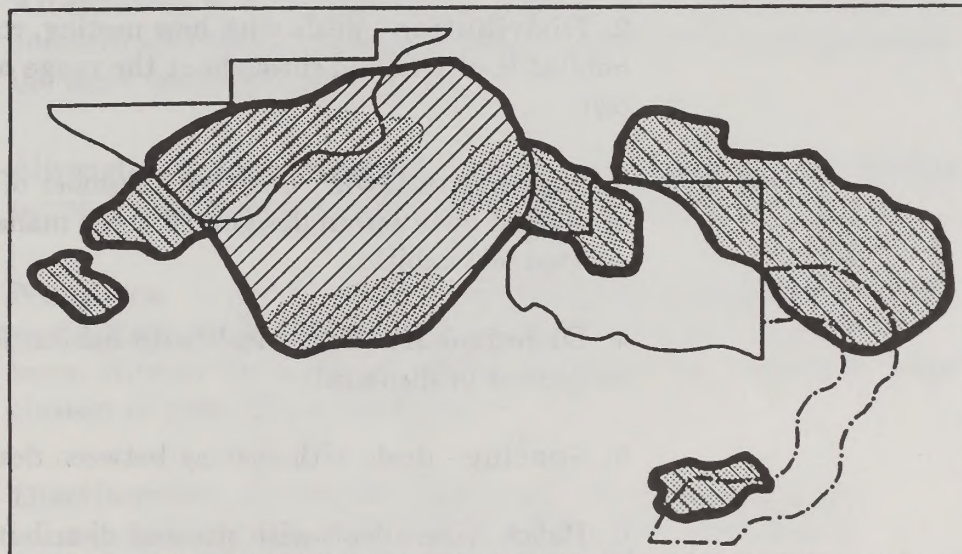
Figure S – 2 Designated Areas Managed Primarily for Spotted Owl Habitat by Alternative (Schematic) continued

Alternative C



Schematic representation of designated areas managed primarily for spotted owl habitat in Alternative C, HCA Plus Critical Habitat.

Alternative D

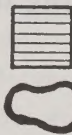


Schematic representation of designated areas managed primarily for spotted owl habitat in Alternative D, HCA plus all nesting, roosting, and foraging habitat.

Legend (Applies to all four schematic maps)



Habitat Conservation Area (HCA)
All nesting, roosting, and foraging habitat



Critical Habitat
Designated areas managed primarily for owl habitat

The Alternatives Compared

This section compares the important environmental effects and resource outputs of the alternatives. The analysis and the sources of data are discussed in detail in Chapters 3 and 4 in the Draft Environmental Impact Statement.

Spotted Owl Population Viability Ratings

Criteria

Viability ratings were assessed for each of the four alternatives using seven criteria. The ratings definitions range from high (H) to low (L). A high rating denotes a high likelihood of persistence of the species; a medium rating denotes an uncertain likelihood of persistence; and a low rating denotes a low likelihood of persistence. In summary, the criteria address:

1. **Potential Change** - deals with current and predicted amount of owl habitat and potential rate of change in habitat.
2. **Distribution** - deals with how nesting, roosting, and foraging habitat is distributed throughout the range of the northern spotted owl.
3. **Number of Owls** - deals with number of currently known pairs of spotted owls within designated areas managed primarily for spotted owl habitat.
4. **Dispersal Habitat** - deals with habitat for spotted owl movement or dispersal.
5. **Spacing** - deals with spacing between designated areas.
6. **Patch Size** - deals with size and distribution of spotted owl habitat patches within designated areas.
7. **Clustering** - deals with the pairs of spotted owls that occur within designated areas large enough to support 20 or more pairs.

Viability Rating for the Alternatives

Overall Rating for the Alternatives

Based on review of the criteria used to assess population viability, the alternatives were assigned a viability rating. The viability ratings were discussed by a panel of spotted owl scientists

and experts. The overall rating for each alternative combined quantitative analyses with the panel's collective professional judgment and specific scientific knowledge of spotted owl population dynamics and habitat conditions.

The viability criteria were used to evaluate how well each alternative provides for adequate numbers and distribution of spotted owls over space and time, in order to ensure viable populations well distributed throughout their range.

Summary of viability ratings:

Alternative A - LOW population viability

Alternative B - HIGH population viability

Alternative C - HIGH population viability

Alternative D - HIGH population viability

Alternative A

Alternative A would provide for a LOW likelihood of viability of northern spotted owl populations on Forest Service lands over both the short term and long term.

Alternative A does not provide for many conditions key to ensuring population persistence in well-distributed patterns.

Numbers. Under Alternative A, spotted owl population numbers would likely decline at significantly high rates even in the short term. Alternative A has no provision for conserving relatively large clusters of pairs (20 or more pairs).

Distribution. Distribution of spotted owls and spotted owl habitat under Alternative A would cause a low likelihood of population persistence over time. At the scale of pair home ranges, habitat would be designated in small, discontinuous patches. Alternative A would also cause increases in fragmentation of habitat, which in turn would likely degrade habitat quality. Alternative A does not provide for movement or dispersal habitat. Other problems with ensuring short-term and long-term distribution of spotted owl habitat under Alternative A include no specific provision for improving current distribution problems in Areas of Concern, and very limited provision for mitigating for catastrophic loss of habitat. All of these conditions would likely not provide for well-distributed populations over time.

Alternative A was also rated as providing a low likelihood of persistence of spotted owl populations in a preliminary summary report by the Scientific Panel on Late-Successional Forest Ecosystems (Gordon, et al. 1991). The Interagency Scientific Committee also stated that the Spotted Owl Habitat Area (SOHA) strategy would result in significant risk to the long-term persistence of the subspecies (Thomas, et al. 1990: 384).

Alternative B

Alternative B would provide for a HIGH likelihood of viability of northern spotted owl populations on National Forests over both the short term and long term.

Alternative B provides for the key elements necessary for long-term population persistence in well-distributed patterns.

Numbers. Spotted owl population numbers would be provided at substantially higher levels than under Alternative A. Over the long term, Alternative B would provide for a stable habitat base.

Alternative B also provides for relatively large (20-pair) clusters of spotted owl pairs, and provides for designation of a substantial area of young forests to become spotted owl nesting, roosting and foraging habitat over time for additional pairs. This would enhance connectivity of other designated habitat areas over the long term, as well as provide for additional sources of reproductive pairs.

Distribution. Movement and dispersal habitat is specifically designated under Alternative B. This is a major provision that substantially enhances the occupancy rates of spotted owls within designated habitat areas by allowing for recolonization among pair clusters.

Clusters of pairs are in large blocks of habitat that is generally adequate to withstand some catastrophic losses of forests such as fire or disease. These factors are critical to ensuring long-term persistence of spotted owl pairs within designated areas and populations.

There are still short-term concerns for persistence of spotted owl populations in the Oregon Coast Range and Olympic Peninsula because these populations are small and at least partially isolated from other populations, and because forest habitats are highly fragmented. Alternative B addresses these Areas of Concern and provides for increased conservation of suitable habitat in these areas.

Thomas, et al. (1990) concluded that full implementation of the Conservation Strategy would provide for a high likelihood of population persistence over the next century throughout its current range. Further, in a preliminary summary report, the Scientific Committee on Late Successional Forest Ecosystems also concluded that the Conservation Strategy would provide for a high likelihood of persistence of the subspecies (Gordon, et al. 1991).

Alternative C

Alternative C would provide for a HIGH likelihood of viability of northern spotted owl populations on National Forests over both the short term and long term.

Alternative C provides for the key elements necessary for long-term population persistence in well-distributed patterns.

Numbers. Alternative C also provides for a stable to increasing habitat base over the long term. This would aid in providing for larger spotted owl population sizes over the short term and long term.

Alternative C also provides for larger designated habitat areas, and thus for larger clusters of pairs, than under Alternatives A or B. This would provide for a higher persistence of pair clusters and a higher likelihood of reoccupancy of vacant habitats.

Distribution. Distribution of spotted owls and spotted owl habitat under Alternative C would provide for more suitable habitat in larger and more contiguous blocks than under Alternatives A or B. These conditions would result in higher likelihoods of maintaining well-distributed populations over time.

As well, Alternative C specifically provides for movement and dispersal habitat among designated habitat areas. Overall, Alternative C would likely result in well-distributed populations over time.

Alternative D

Alternative D would provide for a HIGH likelihood of viability of northern spotted owl populations on National Forests over both the short term and long term.

Alternative D provides for the key elements necessary for long-term population viability in well-distributed patterns.

Summary

Numbers. Spotted owl population numbers provided under Alternative D are incrementally greater than those under Alternative B. Over the long term, Alternative C would provide for a greater amount of young forests to grow into nesting, roosting, and foraging habitat conditions than under Alternative D; thus, Alternative D might not provide for future population sizes as large as under Alternative C.

Distribution. Alternative D would designate larger contiguous habitat areas than under Alternative B. Alternative D also provides for specific conservation and restoration of habitat in Areas of Concern. The size of habitats designated under Alternative D also would be adequate to withstand some catastrophic losses of forests.

For all these reasons, Alternative D provides for population viability incrementally better than does Alternative B in the short term and long term. In the short term, the spotted owl population would be more viable under Alternative D than under Alternative C; but in the long term, differences between Alternatives C and D are unclear.

Environmental Consequences to Forest Ecosystems

Alternatives A through D designate increasing amounts of area to be managed primarily for spotted owl habitat. The designated areas affect various resources differently.

Listed below is a summary of resource effects which are described more completely in Chapter 3&4, and in the Appendices. Although these effects are examined in this document for consideration in the selection of a preferred alternative, it is not possible within the scope of this analysis to meet the absolute needs of, or remove every negative effect on, each of the following resources.

Old-growth forests are valued for their ecological diversity, scientific values, wildlife habitat, and recreational and scenic qualities, as well as for their potential contribution toward meeting timber production goals. There is much debate over both the definition of old-growth forests and the estimates of how much exists. Forest Service inventories indicate approximately 5.41 million acres of old-growth forest exist on the 17 National Forests within the range of the northern spotted owl. The amount of old-growth forest remaining after 50 years varies from 3.67 million acres in Alternative A, to 4.51 million acres in Alternative D.

Insect and disease levels will generally increase in unmanaged forests in the dryer parts of the spotted owl's range because of a shift toward less insect and disease resistant tree species, lack of stocking control, and/or a failure to remove infected trees. This will slightly reduce stocking levels and reduce some desirable structural components of the stand such as large trees (which will turn into large snags), and increase the hazard for catastrophic fires.

Port-Orford-cedar is a valuable tree with limited distribution in southwest Oregon and northwest California. Many Port-Orford-cedar stands are currently being killed by a root rot introduced from Europe. Maintenance of Port-Orford-cedar has become a major concern and a management plan for it is being implemented by the National Forests in Oregon and northern California. A key element of this plan is timely removal of infected trees before the root rot spores can spread. This element may be restricted by the designation of areas to be managed primarily for spotted owl habitat.

Pacific yew is the principle source for taxol, a promising anti-cancer agent, which makes it an important commercial tree species. There is concern over harvesting yew because it does not regenerate freely in many management regimes. Yew is common in old-growth stands. The increased spotted owl habitat acreage designations of Alternatives A, B, C, and D, respectively would provide more habitat for the species, but may reduce its availability.

Threatened, endangered, and proposed species of plants and wildlife are generally favored by the alternatives that provide the greatest amount and distribution of designated areas managed primarily for spotted owl habitat. In general, the alternatives with the most designated area managed primarily for spotted owl habitat incur the least amount of risk on threatened, endangered and proposed species due to habitat modification and human related disturbances.

Wildlife species within the range of the spotted owl that depend on old-growth or late-successional stage forests are also benefited by the alternatives designating more owl habitat. Early-successional stage wildlife generally have adequate amounts of habitat because harvesting and natural processes such as wildfire create an abundance of such habitat. In general, the alternatives with the most designated area managed primarily for spotted owl habitat incur the least amount of risk to wildlife species dues to habitat modification and other human-related disturbances.

Watershed, fisheries, and soils are generally protected in all alternatives by existing best management practices, standards and guidelines, and mitigation measures. High rainfall events, and other factors point to some negative effects from harvests on these resources. In general, the alternatives with the most designated areas managed primarily for spotted owl habitat incur the least amount of risk on water quality, fisheries, and soils due to decreased sedimentation and more stable water temperatures.

Fuels management activities are generally associated with vegetation management projects like timber sales, partly because much of this work is funded directly from timber sale receipts. If funding for fuels management in or around designated areas is not available from some other source, the risk of catastrophic fires is likely to increase.

Minerals resources could be affected as some geothermal, oil, and/or gas development opportunities are foregone within designated areas managed primarily for spotted owl habitat. At

the same time, tree removal associated with mining of locatable minerals, which is permissible if the areas are not withdrawn from mineral entry, may affect some acres within the designated areas.

Recreation on the National Forests will be little affected by Alternative A. Alternatives B, C, and D will slow or reverse the increase of land for road-based recreation. Alternatives C and D are likely to constrain activities at most of the ski areas now proposed for development or expansion. Alternatives B, C, and D, would result in more of the National Forests retaining their current visual quality.

Cultural resources will be less disturbed in alternatives that designate greater areas managed primarily for spotted owl habitat, but these resources will also be less likely to be discovered through pre-project surveys.

Native American religious sites will be more likely to incur the least amount of risk in alternatives with the most designated area managed primarily for spotted owl habitat.

Roads There will be less road building under alternatives designating more areas for spotted owl habitat, with corresponding differences in effects on forest resources and activities. On portions of designated areas where roads already exist, effects on forest resources and activities may occur as these roads are obliterated or closed, particularly if funding for these closures is limited.

Timber Management on the National Forests

On the National Forests of Washington, Oregon, and northern California, within the range of the northern spotted owl, there is approximately 12,298,000 acres of lands considered technically suitable for timber production (Table S - 1). Under Alternative A (existing SOHAs), B, C, and D, designated areas managed primarily for owl habitat preclude timber production on four percent, 24 percent, 33 percent, and 38 percent of these lands, respectively. Existing or Draft Land and Resource Management Plans designate an additional 22 percent, or 2,650,000 acres, of technically suitable lands to be managed for resource values such as stream protection, scenic corridors, and so forth. The remaining areas are considered suitable for timber production.

Table S – 1 Acres Suitable for Timber Production, by Alternative

Acres technically suitable for timber production	Acres Available for Timber Production			
	Alt. A	Alt. B	Alt. C	Alt. D
12,298,000	9,150,200	6,600,600	5,557,200	4,951,900
% of tech. suit:	74%	54%	45%	40%

Partly because forest stands designated for spotted owl habitat tend to be older, higher volume stands, there is not a linear relationship between the number of acres designated for spotted owl habitat, and reduction in Allowable Sale Quantity (ASQ). The effect of an acreage decrease going from Alternative A (existing Forest Plans) to D is a substantial decrease in ASQ (Table S - 2).

**Table S – 2 Average Annual Allowable Sale Quantity (ASQ)
(Million Board Feet)**

And percent change from Alternative A, no-action.

	Alt. A	Alt. B	Alt. C	Alt. D
Washington	752	328 (-56%)	246 (-67%)	150 (-80%)
Oregon	1846	1214 (-34%)	902 (-51%)	470 (-75%)
California	600	260 (-57%)	221 (-63%)	189 (-69%)
Total	3198	1802 (-44%)	1369 (-57%)	809 (-75%)

In all alternatives, standards and guidelines preclude scheduled timber harvest within designated areas managed primarily for spotted owl habitat.

For Alternatives B, C, and D, forest lands between designated areas managed primarily for owl habitat, are managed for dispersal habitat. Standards and guidelines for these areas require that management achieve or maintain at least 50 percent of the area to have 40 percent crown cover or greater in trees 11 inches or more in diameter. This requirement accounts for 300 million board feet of the ASQ reduction in Alternatives B and C when compared with Alternative A.

Under current Forest Plan land allocations, there are few opportunities to mitigate the reduction in ASQ through more intensive management. Forest Plans already schedule most economically viable and practical stand treatments that affect ASQ.

Economic and Community Consequences

There are five primary criteria which can be used to provide a comparison of the economic and community effects of the alternatives. These five criteria are employment, income, revenues, payments to counties, and timber market effects.

National Forest timber harvests in Washington, Oregon, and northern California are an important source of employment and income. Over the past 5 years, the timber harvests from the 17 National Forests included in this analysis have created an average annual employment level of 48,200 jobs with an associated income of \$1.5 billion. Alternative A will provide the highest future employment and income. This alternative will generate employment of 34,500 jobs annually with an income of \$1.1 billion. Alternative B will reduce employment from Alternative A by 15,400 jobs per year (45 percent) and related income by \$486 million (46 percent). Alternative C will have further reductions in employment and income, lowering employment 58 percent and income 59 percent. The lowest employment and income will occur under Alternative D. It will generate 8,200 jobs and an income of \$258.5 million. This is a reduction from Alternative A of 76 percent.

Timber harvests from National Forests generate revenues which are returned to the Federal Treasury. Alternative A will provide the highest revenue levels in the future. It will generate revenues of \$940.1 million annually by 1995. Alternative B will reduce these revenues by \$253.5 million or 27 percent. Alternative C will reduce revenue levels by 40 percent annually by 1995. Alternative D will return the least amount of money to the Federal Treasury, generating revenues of \$350.6 million from timber sales. This is 63 percent less than Alternative A.

Under current law, 25 percent of the revenues collected by each National Forest are returned to the local counties within that National Forest. These funds can be used for roads or schools, and represent an important source of income for many counties. Alternative A will provide approximately \$235 million in annual payments to counties. Alternative D will provide the lowest returns, amounting to \$87.7 million. Alternatives B and C will provide \$171.6 million and \$141.2 million respectively in payments to counties.

The changes in National Forest timber harvest associated with the alternatives will affect national and regional timber markets. As Alternatives B through D progressively reduce National Forest

timber harvests, prices of wood products will increase. These higher prices will stimulate increased production from private lands and other regions in the United States. The higher prices will also lead to an increase in imports of wood products from other countries, primarily Canada.

Figure S - 3 Employment

National Forest Employment Effects

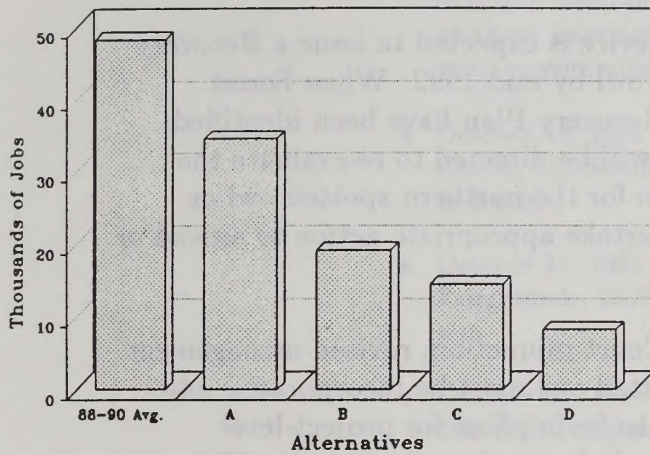


Figure S - 4 Income

National Forest Income Effects

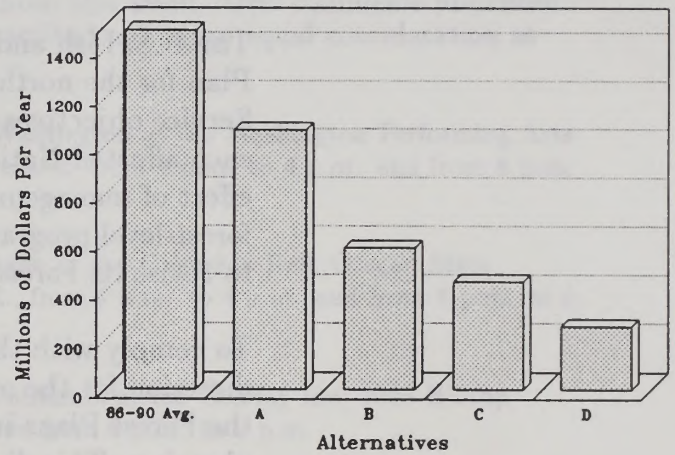


Figure S - 5 Revenue

National Forest Revenues in 1995

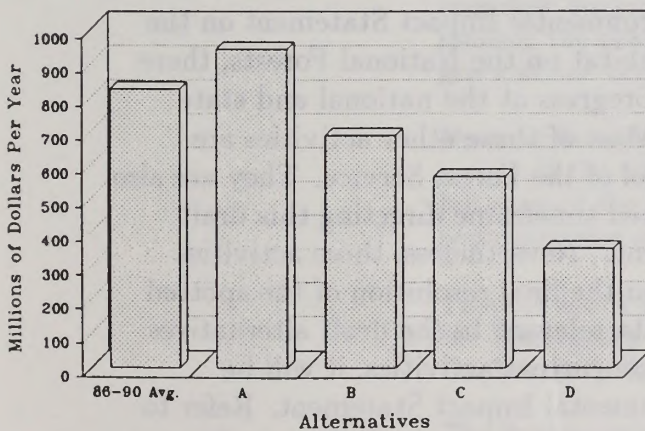
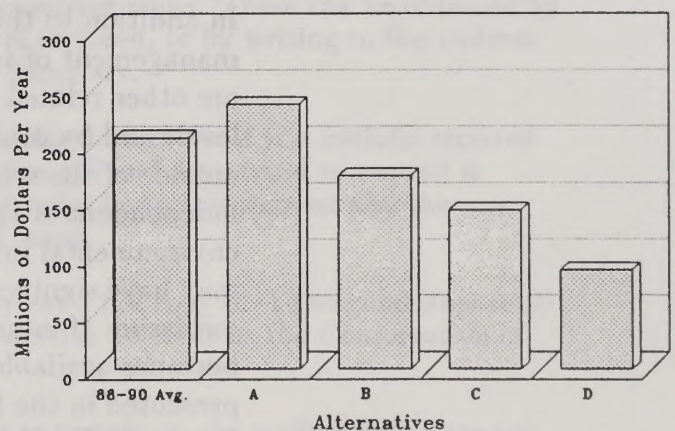


Figure S - 6 Payments to Counties

National Forest Payments to Counties in 1995



Future Changes and Related Activities

Implementation of revised management direction for the northern spotted owl may have effects on other goals and objectives in the Forest Plans that can not be evaluated at this time. The National Forests will monitor the effects of the standards and guidelines and the designated areas for northern spotted owls on other outputs and services to identify further adjustments that may need to be considered in subsequent Forest Plan amendments or revisions.

The U.S. Fish and Wildlife Service is expected to issue a Recovery Plan for the northern spotted owl by mid-1992. When Forest Service objectives under the Recovery Plan have been identified, each affected National Forest will be directed to re-evaluate the effect of management direction for the northern spotted owl on forest-level programs and undertake appropriate action to amend or to revise its Forest Plan.

To comply with the District Court injunction, revised management direction for the northern spotted owl must be incorporated into the Forest Plans immediately to be in effect for project-level planning. This direction will only be in place, however, until a long-term strategy for management of the owl is adopted following the Recovery Plan. At that time, the effects of management requirements for the owl on the long-term relationship between levels of multiple-use goods and services provided by each affected National Forest can be evaluated and action taken to further amend or to revise the Forest Plans, as appropriate.

In addition to this Draft Environmental Impact Statement on the management of spotted owl habitat on the National Forests, there are other related activities in progress at the national and state levels and by other agencies. Most of these other activities are outside of the scope and control of the Forest Service. They are also independent of the court ordered timeframe directing this draft environmental impact statement. Nevertheless, these activities may have significant bearing on the final resolution of the spotted owl issue. If information or data relevant to the draft alternatives becomes available from these concurrent activities, it will be presented in the Final Environmental Impact Statement. Refer to Appendix E in the Draft Environmental Impact Statement for an overview of these activities.

How to Submit Comments

There are two ways to submit comments that the Forest Service will consider in preparation of the Final Environmental Impact Statement:

- 1. Through the Mail** — written comments received by **December 27, 1991** will be considered. Comments should be mailed to the address given at the beginning of this Summary.
- 2. At a Public Hearing** - Three public hearings are planned to obtain oral and written comments about this Draft. Oral comments presented at these hearings will be transcribed and given equal consideration as written comments.
 - October 15, 1991 in Olympia, Washington at the Washington Performing Arts Center, 512 South Washington Street, from 1 p.m. to 4 p.m. and from 6 p.m. to 9 p.m.
 - October 17, 1991 in Salem, Oregon at the Columbia Hall, Oregon State Fairgrounds, 2330 17th St. N.E., from 1 p.m. to 4 p.m. and from 6 p.m. to 9 p.m.
 - October 21, 1991 in Redding, California at the Holiday Inn, 1900 Hilltop Drive, from 1 p.m. to 4 p.m. and from 6 p.m. to 9 p.m.

How to Receive Documents and Future Mailings

This Summary is presented as a brief overview of the comprehensive Draft Environmental Impact Statement. For a more complete understanding of the subject the reader is encouraged to review the complete document and accompanying maps. These can be obtained by sending the postcards that were enclosed, or by writing to the address given at the beginning of this Summary.

Postcards were enclosed with this document. If you initially received a copy of the Summary only, you will find a postcard to request a full copy of the Draft Environmental Impact Statement and the accompanying appendices and maps.

There is also 1 postcard to request a full copy of the original Report of the Interagency Scientific Committee To Address the Conservation of the Northern Spotted Owl.

The final postcard is a request to remain on the mailing list to receive either a summary or full copy of the Final Environmental Impact Statement. **You must return this card to remain on the mailing list.** You may also use this card to make any address correction.

