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Mexican Spotted Owl

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United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240



February 9, 1993

To: Katie McGinty

From: John Leshy, Assistant to Secretary Babbitt

Re: Mexican Spotted Owl

I am attaching some briefing material prepared by the Fish & Wildlife Service on its and the Forest Service's efforts to negotiate an acceptable conservation strategy to avoid listing the Owl under the Endangered Species Act. Specifically: (a) a December 30 letter from Interior to Agriculture on the status of negotiations; and (b) an issue paper prepared earlier in December by FWS containing considerable information on what is known and not known about the Owl and a chronology of the events and negotiations that have taken place since the agency proposed to list it.

As these materials show, there is a marked lack of data about the habits and habitat of the Mexican Spotted Owl, especially compared to its more famous counterpart in the northwest. This has led the FWS to be cautious about protection over the short term until more is known. Specifically, FWS has been recommending the following two-pronged conservation strategy to avoid listing:

First, to place management restrictions on timber harvesting in owl habitat over the next one year or so. How much this would restrict timber harvesting is in dispute; some in the Forest Service claim it would reduce the national forest cut in the southwest from perhaps 310 million board feet (mmbf) next year to about 100 mmbf. FWS believes the cut would be reduced only to about 170-180 mmbf. FWS believes the Forest Service is resisting any reduction of the cut below 300 mmbf in order to keep open three marginal lumber mills in New Mexico. FWS also points out that if the Owl is listed, the timber harvest will almost certainly be reduced at least as much as this as a result of the required consultation process under the ESA.

Second, the strategy calls for an intensive study of the owl and its needs over the next year. The FWS biologists say there is some reason for believing that more study might support relaxing the restrictions on harvesting; i.e., that harvest levels might be raised somewhat in the future. The proposed study calls for assigning four biologists and two other support staff each from the Forest Service and the FWS, at a cost of \$2 million per year, equally divided between the agencies.

Recommendation: At this point biology and law ought to be the guideposts. As the experience in the Pacific Northwest shows, it is short-sighted to try to maintain some arbitrary level of timber harvesting, when the courts are waiting to enforce the legal requirements to reach far more Draconian results. What we have here, in other words, is a chance to show how the Northern Spotted Owl might have been handled more sensibly - with some economic disruption to be sure, but less than almost certainly would occur if the courts drive management of the forests.

I would urge Secretary Espy to instruct the Forest Service not to insist on some arbitrary limit on the amount harvesting can be reduced, and to reach an agreement with FWS within seven days on a plan both agencies can support that would avoid listing the species, while minimizing the amount of short-term reduction in timber harvesting in order to satisfy the FWS.

Let me know if you need more information. I'm available after 5 P.M. tomorrow (or earlier by phone) to meet to talk about this.



OFFICE OF THE
ASSISTANT SECRETARY

United States Department of the Interior

Washington, D.C. 20240

December 30, 1992

Mr. John Bouter
Acting Assistant Secretary
for Natural Resources
and Environment
United States Department of Agriculture
12th Street and Jefferson Drive, S.W.
Washington, D.C. 20250

Re: Mexican Spotted Owl

Dear Assistant Secretary Bouter:

This will confirm the results of a meeting between DOI and USDA representatives seeking a solution to the possible impacts of a pending decision to protect the Mexican spotted owl.

In that meeting, two issues surfaced. The first was the apparent unwillingness of the Fish and Wildlife Service (Service) to accept the Forest Service's Interim Directive #2 regarding timber activities in the Southwest as sufficient to remove threats to the owl. The second was the Forest Service's apparent unwillingness to alter the proposed conservation strategy in accordance with Fish and Wildlife Service recommendations so that it could possibly become a basis for forgoing further Federal protective measures.

What was clear was both Agencies' high interest in completing this matter with the least amount of impact to the species and to other resources.

The result of that shared goal was a commitment to assign the best facilitators and negotiators from each agency to examine both issues.

Dr. John Fay of the Fish and Wildlife Service will be assigned the lead to examine the Forest Service's Interim Directive #2 to determine its flexibility regarding the Mexican spotted owl. He also will have the lead for the Service to resolve concerns you may have regarding any further efforts developing a conservation strategy. I would be pleased if Mr. Robert Nelson, Director the Forest Service's Fisheries Staff, could be available as his counterpart.

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It is our goal to begin these efforts during the week of December 28, 1992.

E. Spagnole, for
Assistant Secretary
for Fish and Wildlife and Parks

ISSUE PAPER

John Fry - FWS - STAFF E.S.
Bob Nelson - F.S. - STAFF Wildlife

PREPARED FOR: Director

STATES: AZ, CO, NM, UT

DATE SUBMITTED: December 11, 1992

ISSUE:

Proposal to list the Mexican spotted owl as threatened.

STATUS:

In reviewing the proposal for the final rule to list the Mexican spotted owl as threatened under the Endangered Species Act (Act), there are a number of questions that should be addressed concerning the basic data base available on the subspecies and the potential to remove the threats to the owl that have been identified as requiring its protection under the Act. The following are some of the questions raised on these subjects, the summarized answers, and, where necessary, the detailed chronologies or analyses used in formulating the answers.

EVOLUTION OF A CONSERVATION STRATEGY

For approximately five months while the public comment period was open on the proposal to list this species, biologists from the Service and the Forest Service worked to develop a conservation strategy to arrest and reverse the downward trends in the quality and quantity of Mexican spotted owl habitat throughout its range. The strategy, to be produced by the Forest Service and incorporated into National Forest Plans after preparation of an EIS, was provided to Service biologists for review, to Forest Service researchers for input, and, at the request of the Service, to independent biologists for additional review at two points in its development. Those reviews, in April and in July, resulted in serious questions regarding the basis upon which the Forest Service had established harvest prescriptions in the habitat of the subspecies and even in the basic definition of habitat utilized by the owl throughout its range. } *

From the outset, both Service and Forest Service biologists and silviculturalists believed that, based on limited data available, a conservative management approach was best in the short term. Subsequent relaxation of management constraints would follow acquisition and analysis of additional data concerning the owl and the management practices implemented within its range. Similarly, it was agreed that the most feasible approach to the formulation of a conservation strategy, from both biological and administrative viewpoints, was to use existing management tools (timber harvest) as an integral component of the strategy. Thus, incorporation of different methodologies and intensities of timber harvest into a large-scale, long-term, experimental design was viewed as the most effective strategy for long term viability of the owl in southwestern forest systems. } *

Because the creation of an experimental design across the range of the owl was expected to take several months, a set of interim management guidelines was also reviewed, to be in effect until the long-term strategy is in place. In essence, } *

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it was the short-term constraints that caused the Forest Service to reject one version of the strategy believed by the biologists and the silviculturalists to be the most biologically valid version of the document. Subsequent to the rejection of that draft by the Regional Forester in August 1992, the Forest Service provided for review several other versions of the interim and long-term components of the strategy. However, the basis for the prescriptions included in those versions was not considered biologically valid for the specificity in areal extent or intensity of timber removal presented.] *

Chronology of conservation strategy development and review

Immediately following the proposal to list the Mexican spotted owl in November 1991, the Service contacted Federal agencies to discuss the anticipated procedures to be followed in conferencing on actions likely to jeopardize the continued existence of the owl. The possibility of removing the identified threats to the owl through modification of timber harvest activities was discussed by representatives of the Service and Region 3 of the Forest Service. Although the necessity to remove threats range-wide was recognized as the only basis for withdrawing the proposal, the pre-eminent role of Region 3 of the Forest Service was recognized based on the following factors:

The Southwest Region (Region 3) of the Forest Service encompasses Arizona and New Mexico, the bulk of the known geographic range of the owl in the United States.

Although owls occur on lands administered by the Bureau of Indian Affairs, the Bureau of Land Management, and the National Park Service, the great majority of known owls occur on National Forests.

Forest management practices considered detrimental to the maintenance of suitable owl habitat (even-age timber harvest and steep-slope logging) within owl habitat occur on the National Forests in Region 3 far more often than in Regions 2 or 4 (Utah and Colorado) or on the other Federal lands within the range of the owl.

A conservation strategy to remove the threats to the Mexican spotted owl was the subject of discussion between and among Regions 2 and 6 of the Service and Regions 2, 3, and 4 of the Forest Service from April through August of 1992. Attachment A is a chronology of that process.

MEXICAN SPOTTED OWL DATABASE

Information specific to the Mexican spotted owl and its habitat requirements throughout its life cycle is still being gathered. To date projections by the Fish and Wildlife Service (Service) of the threats to the subspecies have been derived from the National Forest Plans prepared by the Forest Service. These plans have been the only documents available with planning information that can be used to define actions within the "foreseeable future". These data are

viewed by all researchers as only preliminary and insufficient to substantiate timber harvest prescriptions proposed by the Forest Service, either in extent of areas allowed to be treated or in intensity of timber removal.

The most serious obstacle to the development of the conservation strategy was the lack of knowledge about the Mexican spotted owl. The northern subspecies is one of the best studied birds in the United States. That subspecies has had the benefit of more than 20 years of intense research effort. Ganey did the first serious studies of Mexican spotted owls, beginning in the mid-1980s. Others began studies after 1989, so the data that are available now are preliminary. For example, the Forest Service estimate of home range size used to develop management territories is based upon 6 pairs of Mexican spotted owls on two forests in mixed conifer habitat.

The data that are available indicate that the Mexican spotted owl is biologically different from the northern spotted owl. It occupies a more heterogeneous landscape, is found in a far greater variety of habitat types, and is much more difficult to capture than the northern spotted owl. At this time, the critical need is for more information on the basic biology of the subspecies. Details of scientific knowledge of the owl are summarized in Attachment B.

IMPACTS TO FOREST LAND USES

The majority of owls occur in Arizona and New Mexico. Within these States, over 90% of known owls occur on National Forests and Indian reservations which support the majority of owl habitat, most of which is managed for timber production. Therefore, review of activities with potential to affect the quality, quantity, and distribution of owl habitat in Arizona and New Mexico has concentrated on timber harvest. Additionally, based on the types of timber management practices occurring on Federal lands, those of even-age management and steep-slope logging, prevalent on National Forests rather than Indian reservations, have concentrated review of timber harvest impacts on the National Forests of Arizona and New Mexico.

The occurrence of nesting owls in the canyons of Utah and Colorado has brought activities that occur in those habitats (grazing, utility corridors, mineral exploration and extraction) under review, but to a far lesser extent than timber harvest on National Forests in Arizona and New Mexico. Curtailment of activities deemed adverse to the continued survival of the Mexican spotted owl is likely to affect timber industry in the states of Arizona and New Mexico. However, the degree of this impact and the capacity of the industry to adapt to deal with potential modifications of harvest methodologies and systems has been greatly debated. Discussions between Service staff and representatives of the timber industry have indicated that retooling of mills is ongoing and the timber industry can adapt. The only requirement for economic longevity for the mills is some predictability or constancy, even at reduced levels of harvest.

RELATIONSHIPS BETWEEN THE ALLOWABLE SALE QUANTITY (ASQ) AND ACTUAL CUT VOLUMES ON NATIONAL FORESTS IN FOREST SERVICE REGION 3 (ARIZONA AND NEW MEXICO)

Region 3 of the Forest Service commonly has offered and sold less timber than programmed volumes in recent years. In particular, Region-wide volume has been below 300 million board feet in each year since 1990. Tables included in Attachment C provide a summary of the differences between the sale quantities allowed through the forest plans and the timber sales arising from those projections between 1984 and the present.

AVAILABILITY AND FREE EXCHANGE OF INFORMATION

During the course of review of the several iterations of the conservation strategy, Service biologists made numerous requests for information or clarification that were received delayed responses from the Forest Service. Of note were the many requests to see the alternatives being considered with the conservation strategy in the EIS. Of particular interest was the analysis of Alternative D (prohibition of all management activities in suitable habitat). It required several requests to obtain the preliminary narrative for the alternative. When finally received, it was a moot point due to the change in direction by the Forest Service and lack of progress on the EIS.

Requests for an accounting of which recommendations provided to the Forest Service during the conferencing process had been incorporated into the FY 1992 timber sale program also required lengthy periods to process by the Forest Service. The first request for the analysis was on August 14, 1992; subsequent requests were made at meetings with Forest Service staff on August 31, September 25, and October 16, 1992. A response was provided by the Forest Service by letter dated October 27, 1992, and was incomplete, thereby reducing its utility in assessing whether concerns regarding specific timber sales had been alleviated.

Of greatest impact to the formulation and review of the conservation strategy was the lack of communication regarding the August 14, 1992, draft document. Service biologists left the drafting session of August 13 and 14 with an agreement that there were two basic alternatives under consideration for the interim management:

- A. No management activities in suitable habitat.
- B. Management activities could occur in suitable habitat in delineated Habitat Management Areas, but no activities were to be allowed in core areas.

When the Service received the draft dated August 19, 1992 there had been several changes made, and the alternatives noted above were not retained in the document. Other requests made of Forest Service staff to which the Service received no response included an estimate of the board feet of harvestable timber that could be harvested under the August draft agreed to by the biologists, and the amount of timber to be harvested from the FY 1992 sale program.

talks
broke
down

**COMMITMENTS OF STAFF AND FUNDS DEEMED CRITICAL TO THE SUCCESSFUL
ACCOMPLISHMENT OF A CONSERVATION STRATEGY**

In order to expeditiously and thoroughly comply with the intent of the conservation strategy, both the Fish and Wildlife Service and the Forest Service would need to commit staff and funding sufficient to make the scientific team concept work. To that end, the agencies would have to provide the necessary funding and FTEs in FY 1993 to support three scientists from each agency full-time on the scientific team. In addition to the funding and commitment of FTEs for the team itself is the requirement of funding and staff support to ensure the on-the-ground analysis and monitoring of components of the experimental program. In addition to the participation of existing Forest Service and Service personnel in designing, monitoring, and analyzing timber sales as possible components of the experimental design, it is anticipated that an additional eight biologists (four FTEs each from the Forest Service and the Service) would be required to work with forest wildlife staff to ensure standardization and needed expertise is available for conducting the experimental program. Two administrative support FTEs (one each for the Forest Service and the Fish and Wildlife Service) would also be required. Staffing and support funds for each agency are anticipated to total \$600,000/year; research funding requirements are estimated at \$750,000/year/agency.

ATTACHMENT A

CHRONOLOGY -- CONSERVATION STRATEGY DISCUSSIONS

March 9, 1992 - Service received Notice of Intent to prepare an EIS published by the Forest Service in the Federal Register on March 5, 1992. The NOI cited the Fish and Wildlife Service, Arizona Game and Fish Department, and the New Mexico Department of Game and Fish as cooperating agencies in the preparation of the EIS. No contact had been made by the Forest Service with any of the three agencies prior to this publication; nor was the Service provided a copy for review before it appeared in the Federal Register.

March 17, 1992 - A meeting between the Service and the Forest Service to discuss the requirements of the Service to meet internal deadlines for review of additional information (such as the conservation strategy and the EIS) coming to bear on the analysis of threats to the owl. Dates of June 12, 1992 for the draft EIS, and September 1, 1992, for the final EIS were agreed upon and the Service started the process to reopen the public comment period to September 1, 1992.

March 31, 1992 - Service received the draft conservation strategy and requested narrative descriptions of the other alternative actions under consideration by the Forest Service for inclusion in the EIS. A new timeline was also received indicating that the EIS would not be final until October 15, 1992, 45 days later than agreed upon.

April 3, 1992 - Service advised the Forest Service that staff time constraints and requirements to maintain objectivity in assessing the need to list the owl would limit Service involvement to biological input to the strategy itself and not to documentation under NEPA.

April 15, 1992 - On request of Forest Service staff, the Service provided informal assessment of the adequacy of the strategy. Major shortcomings in the document discussed in the comments were echoed by Forest Service researchers and biologists. These included:

- o sample sizes were too small to construct statistically legitimate recommendations for territory size delineations, particularly across vegetative types.
- o no biological justifications were provided for many of the specific requirements outlined in the documents, such as desired stand structures, size of desired trees, logs, etc.
- o definition was lacking of suitable habitat throughout the range of the owl

In the absence of such needed information as that listed above, no reviewer believed the document presented a scientifically credible strategy to conserve the owl.

ATTACHMENT A

May 11, 1992 - Meeting with Forest Service. Following review, it was agreed that biologists and silviculturalists from both the Service and the Forest Service would meet informally to identify data needs and prepare, within the acknowledged constraints of a limited data base, a comprehensive conservation strategy.

May 19 and 20, 1992 - Biologists met. Staff from Regions 2 and 4 of the Forest Service, Regions 2 and 6 of the Service emphasized need to define suitable habitat for the owl, and management options to retain suitable habitat, must reflect changing conditions throughout its range, particularly in the canyons of Utah and Colorado. Basic agreement was reached on the following broad requirements to be addressed in the strategy:

- o Management strategies must be refined as data become available.
- o Strategy must include a provision for adaptation and flexibility, as more is learned about the requirements of the owl, and the impacts caused by habitat altering management actions.
- o Definitions of habitat suitability throughout the range of the owl are critically needed.

May 26, 1992 - Meeting with Regional Director Spear and Regional Forester Henson to keep them apprised of staff level discussions and progress.

June 11 and 12, 1992 Service again requested narrative descriptions of other alternatives against which the conservation strategy would be assessed. One option under consideration was the potential for quantification through silvicultural analysis of existing management territories, occupied versus unoccupied sites. Service biologists and Forest Service silviculturalists reviewed possible quantification methodologies.

June 22, 1992 Coordination meetings continued among staff to address conservation strategy.

June 29 and 30, 1992 - Revised strategy document (dated June 25, 1992) distributed for review. Draft definitions of suitability in canyon habitats provided. Narrative of other alternatives to be presented in the EIS provided to the Service.

July 10, 1992 - Another strategy document distributed for review. Reviews were solicited from Forest Service researchers and independent biologists. Again, weaknesses of the plan were considered to be the lack of any scientifically defensible synthesis of data to support habitat definitions or management strategies. Copies of comments provided to the Service July 31, 1992.

ATTACHMENT A

August 10 - 14, 1992 - Meeting of biologists and silviculturalists from the Forest Service and the Service. The rough elements of the strategy are agreed upon: a definite commitment to long term experimental design to monitor and adapt timber harvest programs and other habitat-altering activities based on information to be gained; and interim constraints on stand-altering activities to protect known owls and their habitats until the long-term experimental design (via a scientific committee) could be implemented. The information was then presented to Regional Director Spear and Regional Forester Henson on August 14.

August 14, 1992 - Regional Forester Henson required review of the document by timber program analysts to determine if 300 million board feet could be harvested with it in place. Service requested analysis of recommendations provided to the Forest Service during conferencing in order to determine if recommendations to avoid jeopardy were included in the 1992 sale program. Such information would be used in deciding if the 1992 sale program should be reviewed for the interim program or could be grandfathered. The Forest Service responded that some recommendations were adopted, others were not.

August 18, 1992 - Service biologists, having participated in the formulation of the draft strategy at the Forest Service Regional Office utilizing the Forest Service computer system were not allowed to take a hard copy of the strategy from that office.

August 20, 1992 - Service biologists reconstructed elements of the strategy upon which they worked with Forest Service counterparts.

August 31, 1992 - Forest Service presented new proposals for harvest practices and canopy-closure conditions. Still no scientific validity for the selection of minimum canopy closure conditions or areas of territories treated. Forest Service stated that the originally predicted 70% canopy closure is unattainable and based on its staff's misinterpretation of research results.

September 1992 - Throughout the month, meetings were called by the Forest Service to discuss adjustments to sections of the conservation strategy; a new draft strategy was dated September 24, 1992.

September 25, 1992 - Meeting of Service and Forest Service biologists and Forest Service researchers to discuss strategy ended with the conclusion by the Forest Service experts that ultimately the course of no action would be more biologically justifiable in conservation of the owl than the actions proposed by the Forest Service for the interim.

September 28, 1992 - Meeting between Forest Service and Service biologists to reword long-term management goals and to emphasize the necessity of both agencies providing funding and staff power to fully develop and implement the long-term strategy. The Forest Service had deleted the concept of the Habitat Management Area within which the scientific team would review, monitor, and revise timber harvest practices based on the experimental design.

ATTACHMENT A

October 15 and 16, 1992 - Forest Service and Service staff met in Washington, the Service presented its "bottom line" for the interim management. Rather than attempt to justify specific harvest practices that are viewed by species experts in both agencies as unsubstantiated by data, the Service proposed that, for the interim months until long-term strategies are established, the most critical area, the 2000-acre core be delineated as a no-treatment zone and that prescriptions proposed by the Forest Service be applied outside those zones. The major element of the interim strategy was its applicability only until the long-term strategy would be in place. Forest Service staff presented a new proposal for harvest during the interim period. Staff from both agencies returned to New Mexico to review the proposal in more detail. With the exception of the specific recommendations provided on individual timber sales for which conferencing occurred, Service recommendations for interim management prescriptions followed the guidelines agreed upon by the biologists of both agencies during the August meetings.

ATTACHMENT B

INFORMATION NEEDS FOR THE MEXICAN SPOTTED OWL

Demography

At this time there are no data on adult or juvenile survivorship. There are limited data on the number of eggs laid, and there are monitoring data on pairs in most forests which provide limited data on territory occupancy rates and numbers of fledglings produced per pair. Without information on survival rates, it is not possible to calculate population trends. Without current population trend data and data on variance in productivity, it is not possible to estimate the probability of population viability. With the current paucity of data on demographic parameters we do not know if specific subsets of the population (age and/or sex classes) require special treatment.

Dispersal

Dispersal is closely related to demography. The Mexican spotted owl is distributed across the landscape in more or less isolated groups. The populations along the Mogollon Rim from central Arizona to southeastern New Mexico are mostly connected by mountain and forested habitat. Other groups are isolated from adjacent populations by desert habitats that occur between mountain ranges. Many of the populations on these isolated habitat islands are small and probably subject to periodic extinction if not rescued by dispersers.

There are few data on Mexican spotted owl dispersal. Wiley marked juvenile birds with radio transmitters in Utah this year, but he has yet to report any results. Gutierrez began banding all birds in his study areas, but his study is in its second year, and he also has not reported on dispersal. Duncan has a banding and genetics study in progress, but like the others, that study has not yet reported any results.

Habitat

Habitat conversion from a complex, multilayered canopy structure to a simple single-story canopy in even-aged stands was identified in the proposed rule as the most important threat to the owl. Identification of specific habitat features that are necessary to the owl is the first step in the development of a credible conservation strategy for a species that is habitat-dependent. Defining suitable habitat is not possible at this time. Current notions of suitable habitat are limited to the breeding season, and are generally thought to be related to limits associated with heat stress during hot weather in the summer or to prey availability.

The most suitable nesting and summer roosting habitat is fairly well characterized. There is anecdotal evidence that juxtaposition of ponderosa pine, pinon-juniper, and/or rock outcrops may be important components of foraging habitat at many sites. Many owl home ranges consist of complex mosaics of different habitat types. The importance of

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close juxtaposition of different habitats, and the importance of foraging habitat characteristics is not yet understood. In Arizona, Ganey found owls foraging in habitat that would be classified as unsuitable for roosting or nesting. In the Jemez Mountains in New Mexico, the habitats that were identified as the highest quality, according to attributes important for nesting or roosting, have had lower productivity of young than home ranges that were in apparently marginal habitat. This observation must be treated cautiously because of the small sample size and the short time upon which the observation was made. There may also be seasonal shifts in habitat use between summer and winter. At the north end of the owl's range, in northern Arizona and New Mexico, and southern Utah and Colorado, the owls are found in lower elevation canyons with typical forest habitat in the canyon bottoms and more xeric types in the uplands surrounding the canyons. Wiley found that adult owls in Utah shift from cool canyon-bottom nest sites in summer to warmer upland sites with a south aspect in winter. In the center of its range there are virtually no data on winter habitat use.

In discussions about the conservation strategy with the Forest Service we found that we could not define essential qualities of suitable habitat because of a lack of data. We did identify conditions that we believe must be retained for roosting and nesting habitat to remain suitable, and thus developed an operational definition which would suffice for the short time of the 1-year interim program. We believe that this type is most threatened by current silviculture practices, and thus if it could be protected, the other types would probably be adequately retained.

Landscape Characteristics

Landscape characteristics important to owls occur at multiple spatial scales, as discussed above. At the largest scale is the distribution of birds across the landscape. Mexican spotted owls are found in groups of home ranges in suitable habitat on most mountain ranges within the species range. These groups may function as isolated sub-populations. Relatively large groups occur in the Lincoln and Gila Forests in New Mexico and on the Apache/Sitgreaves and Coconino Forests in Arizona. High densities also occur on the small mountain ranges in southern Arizona, but those populations are generally small and isolated by unsuitable desert habitats. Dispersal is probably very important to maintain those populations, but habitat conditions necessary to allow that dispersal are unknown at this time. The same is probably true for the smaller and even more isolated groups in northern mountain ranges.

At an intermediate scale, the pattern of owl habitat within a forest probably determines the locations of owl home ranges within forests. Habitat limitation related to nesting and summer roost sites is thought to control occupancy patterns. The number of pairs that occupy areas may be governed by the amount of habitat, and thus the persistence of local populations is probably related to the amount of suitable habitat. This is conjecture at this time, however, as there are no relevant data available on population trends of different sized groups. Also at the

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intermediate scale is the importance of dispersal habitat between groups of owls. Within forests, there are probably forest conditions that produce variance in dispersal success. There are no data at this time on habitat requirements for dispersal, either among or within forests.

Within territories the juxtaposition of stands may be an important attribute if the birds roost in one habitat type and forage in another. Stand type juxtaposition pattern may also be an important attribute to determine whether a bird winters on its breeding territory or moves off during the winter. In many bird species, winter movements are associated with very high adult mortality. If Mexican spotted owls are long-lived birds like the northern subspecies, increased winter movement, with attendant mortality, could destabilize populations.

Finally, patterns of trees within stands may determine suitability for a variety of uses. Breaking of stands of nesting/roosting habitat by small group selection harvests may change thermal patterns, allow incursions by predators or competitors, or affect prey abundance, either positively or negatively. The Forest Service has adopted management guidelines for the northern goshawk designed to enhance that species' prey abundance by creation of small openings. A potentially important effect of that management is small-scale habitat fragmentation. Such fragmentation may have a variety of adverse effects on owls, including increased predation, as discussed below.

No research has been done on the importance of scale factors for the Mexican spotted owl. The lack of information combined with theoretical concerns mandates a cautious approach to management.

Predator and prey relations

Predation was identified in the Proposed Rule as a concern associated with habitat fragmentation. Although the greatest threat to the owl is believed to be habitat conversion, the fragmentation produced by extensive group selection harvests may also become important. The predators that are likely to benefit the most from fragmentation are the great horned owl and the red-tailed hawk. Both species are believed to be important predators on Mexican spotted owls. Spotted owls are not as wary of predators as many other species, probably because they are usually found during daytime in stands that are too dense for efficient foraging by large avian predators. When the habitat is fragmented and made available to these birds, owls are highly susceptible.

Several studies have investigated prey habits of Mexican spotted owls. Most have identified woodrats as the predominant prey species with lesser numbers of other rodents, rabbits, birds and insects. No studies have reported the relationship of prey abundance in different habitat types with Mexican spotted owl foraging. Ward has such a study underway on the Lincoln National Forest in New Mexico, but he radio tagged birds in summer and fall 1992, and has no results to report at this time.

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Management effects

Several aspects of management activities might have negative impacts on Mexican spotted owls. Some of these are disturbance associated with the use of chain saws and heavy equipment that are used in timber harvest, use of heavy equipment to build and maintain roads, increased recreational activity following the development of roads, various modifications of habitat that follow different types of stand-modifying harvests, habitat reduction and fragmentation that result from timber harvest under different regimes.

One of the primary goals identified for the long-term portion of the conservation strategy was for the scientific committee to develop experiments to identify management practices that would minimize effects on the Mexican spotted owl. At this time we only have a poor understanding of the habitat needs of the owl, and we know less about its response to various timber management practices.

1984-1992 USFS SOUTHWEST REGION TIMBER PROGRAM

	FISCAL YEAR								
	1984	1985	1986	1987	1988	1989	1990	1991	1992
(MMBF) PROGRAM	507	457	434	413	398	405	395	380	386
OFFER	479	413	441	407	373	358	281	235	143
SOLD	286	236	338	377	321	348	272	227	139
CUT	306	276	331	387	391	412	343	211	223

MMBF = Million Board Feet

PROGRAM = Planned annual volume

CUT = Volume harvested; may include volume sold in previous years

OFFER = Volume put up for sale

SOLD = Volume awarded

ATTACHMENT C

ATTACHMENT C

GILA (ASQ=30)

	84	85	86	87	88	89	90	91	9
(MMBF)									
PROGRAM	46.0	27.0	34.6	32.3	31.8	31.4	27.0	26.0	26.
OFFER	41.3	31.4	33.6	32.3	31.7	35.7	25.2	19.7	14.
SOLD	0.8	10.4	29.8	32.3	31.5	35.7	25.2	19.7	14.
CUT	19.0	25.5	29.8	30.4	39.2	45.2	28.7	10.0	25.

KAIBAB (ASQ=72)

	84	85	86	87	88	89	90	91	9
(MMBF)									
PROGRAM	90.0	65.0	79.3	80.6	71.2	82.0	73.0	66.0	75.
OFFER	90.4	71.2	74.8	68.7	72.9	78.6	64.0	22.0	23.
SOLD	86.1	46.7	74.7	63.0	57.9	74.5	64.0	22.0	23.
CUT	73.4	68.0	64.1	78.2	74.7	77.8	64.6	42.8	37.

LINCOLN (ASQ=15)

	84	85	86	87	88	89	90	91	9
(MMBF)									
PROGRAM	12.0	11.0	17.5	15.0	14.6	12.2	15.0	13.7	5
OFFER	12.4	8.3	16.1	15.2	11.7	12.0	3.2	3.7	4
SOLD	4.9	8.2	16.1	15.2	11.7	12.0	3.2	3.7	4
CUT	7.8	10.5	9.6	16.3	19.4	13.9	11.1	4.1	1

PRESCOTT (ASQ=0.9)

	84	85	86	87	88	89	90	91	9
(MMBF)									
PROGRAM	3.0	2.0	3.0	3.9	3.1	3.1	1.0	1.0	5
OFFER	2.3	3.5	4.0	3.7	2.1	6.7	0.8	0.7	0
SOLD	2.3	3.2	1.5	3.7	2.1	6.7	0.8	0.7	0
CUT	0.6	0.0	0.4	0.7	0.8	2.5	1.1	0.5	0

SANTA FE (ASQ=39)

	84	85	86	87	88	89	90	91	9
(MMBF)									
PROGRAM	48.0	35.0	39.3	54.5	41.5	42.6	41.0	39.0	21
OFFER	40.2	2.9	43.8	71.5	43.6	22.0	21.5	32.1	3
SOLD	35.2	2.9	41.6	62.6	39.3	22.0	17.0	31.7	6
CUT	31.5	36.4	36.0	41.3	35.3	42.3	28.9	11.7	16

PONTO (ASQ=6.1)

	84	85	86	87	88	89	90	91	9
(MMBF)									
PROGRAM	10.0	5.0	7.8	6.0	5.8	6.1	6.0	6.7	1
OFFER	9.6	10.4	7.8	7.4	5.8	7.0	6.8	10.4	1
SOLD	2.8	1.1	7.2	5.9	5.8	7.0	6.7	9.1	1
CUT	5.1	0.1	1.5	0.7	5.0	3.0	6.9	5.3	1

ATTACHMENT C

1984-1992 USFS SOUTHWEST REGION TIMBER PROGRAM

REGION 3 (ASQ=390)

	FISCAL YEAR								
	84	85	86	87	88	89	90	91	92
(MMBF) PROGRAM	507	457	434	413	396	408	395	380	386
OFFER	479	413	441	407	373	358	281	235	143
SOLD	286	236	338	377	321	348	272	227	139
CUT	306	276	331	387	391	412	343	211	223

ARIZONA (ASQ=267)

	84	85	86	87	88	89	90	91	92
(MMBF) PROGRAM	336	324	290	277	271	280	270	264	270
OFFER	328	326	285	256	248	260	199	166	116
SOLD	209	190	213	236	206	252	198	159	115
CUT	217	182	229	274	269	286	240	167	172

NEW MEXICO (ASQ=123)

	84	85	86	87	88	89	90	91	92
(MMBF) PROGRAM	171	133	144	136	127	126	125	116	116
OFFER	151	88	155	151	125	99	82	68	27
SOLD	77	46	125	141	115	96	74	67	24
CUT	89	94	106	113	123	127	103	44	51



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240PHOTOCOPY
PRESERVATION

February 5, 1993



Memorandum

To: Katie McGinty

From: John Leshy Assistant to the Secretary of the Interior

Re: Endangered Species - Mexican Spotted Owl - Need for Meeting
with Secretary of Agriculture Espy and Secretary Babbitt

On October 3, 1991, Interior's Fish & Wildlife Service (FWS) proposed to list the Mexican Spotted Owl under the Endangered Species Act. Its prime habitat is the old growth forests of the Southwest (primarily in Arizona and New Mexico) mostly managed by the Forest Service. By law, a final decision on listing was required to have been made four months ago, on October 3, 1992.

Upon publication of the listing proposal, FWS and the Forest Service began negotiating at the regional level to try to agree upon a forest management regime that would have made formal listing (and the elaborate processes that accompany it) unnecessary. Ultimately, regional Forest Service officials would not agree to any plan that would have delayed some scheduled timber sales. In December 1992, the negotiations were elevated to agency headquarters in Washington, but were abandoned before the new year.

Some in the FWS believe that at least some officials in the previous Administration welcomed the prospect of listing the Mexican Spotted Owl to increase the pressure to rewrite the ESA to remove the spectre of FWS interference in management of the national forests. Despite the similar names, the Mexican and Northern Spotted Owl situations are rather different in both biology and economic impact; e.g., the timber industry in the southwest is nearly not as prominent as in the northwest. Nevertheless, listing the species might complicate the Northwest Forest Summit and the reauthorization of the Endangered Species Act.

FWS continues to believe that an agreement is possible upon reasonable management restrictions that would avoid listing the Mexican Spotted Owl. Conservation groups have told us that a lawsuit challenging our failure to meet the deadline is imminent. Unless we act it is probably just a matter of time before a Court orders the listing (as Judge Zilly did for the Northern Spotted

** Behler*** call esp & Babbitt*** need copy on what the plan looks like*

Owl) and brings the Endangered Species Act fully into play.

While time is very short and success hardly guaranteed, Secretary Babbitt believes one last attempt should be launched immediately to try to reach an agreement to obviate the need for listing. We urge you to call him and Secretary Espy together as soon as possible to address this.

**PHOTOCOPY
PRESERVATION**



United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240



February 9, 1993

To: Katie McGinty

From: John Leshy, Assistant to Secretary Babbitt

Re: Mexican Spotted Owl

I am attaching some briefing material prepared by the Fish & Wildlife Service on its and the Forest Service's efforts to negotiate an acceptable conservation strategy to avoid listing the Owl under the Endangered Species Act. Specifically: (a) a December 30 letter from Interior to Agriculture on the status of negotiations; and (b) an issue paper prepared earlier in December by FWS containing considerable information on what is known and not known about the Owl and a chronology of the events and negotiations that have taken place since the agency proposed to list it.

As these materials show, there is a marked lack of data about the habits and habitat of the Mexican Spotted Owl, especially compared to its more famous counterpart in the northwest. This has led the FWS to be cautious about protection over the short term until more is known. Specifically, FWS has been recommending the following two-pronged conservation strategy to avoid listing:

First, to place management restrictions on timber harvesting in owl habitat over the next one year or so. How much this would restrict timber harvesting is in dispute; some in the Forest Service claim it would reduce the national forest cut in the southwest from perhaps 310 million board feet (mmbf) next year to about 100 mmbf. FWS believes the cut would be reduced only to about 170-180 mmbf. FWS believes the Forest Service is resisting any reduction of the cut below 300 mmbf in order to keep open three marginal lumber mills in New Mexico. FWS also points out that if the Owl is listed, the timber harvest will almost certainly be reduced at least as much as this as a result of the required consultation process under the ESA.

Second, the strategy calls for an intensive study of the owl and its needs over the next year. The FWS biologists say there is some reason for believing that more study might support relaxing the restrictions on harvesting; i.e., that harvest levels might be raised somewhat in the future. The proposed study calls for assigning four biologists and two other support staff each from the Forest Service and the FWS, at a cost of \$2 million per year, equally divided between the agencies.

Recommendation: At this point biology and law ought to be the guideposts. As the experience in the Pacific Northwest shows, it is short-sighted to try to maintain some arbitrary level of timber harvesting, when the courts are waiting to enforce the legal requirements to reach far more Draconian results. What we have here, in other words, is a chance to show how the Northern Spotted Owl might have been handled more sensibly - with some economic disruption to be sure, but less than almost certainly would occur if the courts drive management of the forests.

I would urge Secretary Espy to instruct the Forest Service not to insist on some arbitrary limit on the amount harvesting can be reduced, and to reach an agreement with FWS within seven days on a plan both agencies can support that would avoid listing the species, while minimizing the amount of short-term reduction in timber harvesting in order to satisfy the FWS.

Let me know if you need more information. I'm available after 5 P.M. tomorrow (or earlier by phone) to meet to talk about this.

OFFICE OF THE
ASSISTANT SECRETARY

United States Department of the Interior

Washington, D.C. 20240

December 30, 1992

Mr. John Beuter
Acting Assistant Secretary
for Natural Resources
and Environment
United States Department of Agriculture
12th Street and Jefferson Drive, S.W.
Washington, D.C. 20250

Re: Mexican Spotted Owl

Dear Assistant Secretary Beuter:

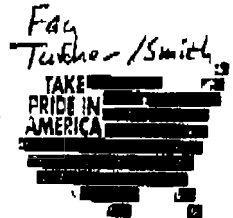
This will confirm the results of a meeting between DOI and USDA representatives seeking a solution to the possible impacts of a pending decision to protect the Mexican spotted owl.

In that meeting, two issues surfaced. The first was the apparent unwillingness of the Fish and Wildlife Service (Service) to accept the Forest Service's Interim Directive #2 regarding timber activities in the Southwest as sufficient to remove threats to the owl. The second was the Forest Service's apparent unwillingness to alter the proposed conservation strategy in accordance with Fish and Wildlife Service recommendations so that it could possibly become a basis for foregoing further Federal protective measures.

What was clear was both Agencies' high interest in completing this matter with the least amount of impact to the species and to other resources.

The result of that shared goal was a commitment to assign the best facilitators and negotiators from each agency to examine both issues.

Dr. John Fay of the Fish and Wildlife Service will be assigned the lead to examine the Forest Service's Interim Directive #2 to determine its flexibility regarding the Mexican spotted owl. He also will have the lead for the Service to resolve concerns you may have regarding any further efforts developing a conservation strategy. I would be pleased if Mr. Robert Nelson, Director the Forest Service's Fisheries Staff, could be available as his counterpart.



Please advise my office of your lead on these two issues. Our point of contact for these matters, will be Mike Brennan of FWS, at 208-4717.

It is our goal to begin these efforts during the week of December 28, 1992.

Sincerely,



Assistant Secretary
for Fish and Wildlife and Parks

Correspondence & file logs to [illegible]

John Fry - FWS - STAFF E.S.

Bob Nelson - F.S. - staff wildlife

ISSUE PAPER

PREPARED FOR: Director

STATES: AZ, CO, NM, UT

DATE SUBMITTED: December 11, 1992

ISSUE:

Proposal to list the Mexican spotted owl as threatened.

STATUS:

In reviewing the proposal for the final rule to list the Mexican spotted owl as threatened under the Endangered Species Act (Act), there are a number of questions that should be addressed concerning the basic data base available on the subspecies and the potential to remove the threats to the owl that have been identified as requiring its protection under the Act. The following are some of the questions raised on these subjects, the summarized answers, and, where necessary, the detailed chronologies or analyses used in formulating the answers.

EVOLUTION OF A CONSERVATION STRATEGY

For approximately five months while the public comment period was open on the proposal to list this species, biologists from the Service and the Forest Service worked to develop a conservation strategy to arrest and reverse the downward trends in the quality and quantity of Mexican spotted owl habitat throughout its range. The strategy, to be produced by the Forest Service and incorporated into National Forest Plans after preparation of an EIS, was provided to Service biologists for review, to Forest Service researchers for input, and, at the request of the Service, to independent biologists for additional review at two points in its development. Those reviews, in April and in July, resulted in serious questions regarding the basis upon which the Forest Service had established harvest prescriptions in the habitat of the subspecies and even in the basic definition of habitat utilized by the owl throughout its range. } *

From the outset, both Service and Forest Service biologists and silviculturalists believed that, based on limited data available, a conservative management approach was best in the short term. Subsequent relaxation of management constraints would follow acquisition and analysis of additional data concerning the owl and the management practices implemented within its range. Similarly, it was agreed that the most feasible approach to the formulation of a conservation strategy, from both biological and administrative viewpoints, was to use existing management tools (timber harvest) as an integral component of the strategy. Thus, incorporation of different methodologies and intensities of timber harvest into a large-scale, long-term, experimental design was viewed as the most effective strategy for long term viability of the owl in southwestern forest systems. } *

Because the creation of an experimental design across the range of the owl was expected to take several months, a set of interim management guidelines was also reviewed, to be in effect until the long-term strategy is in place. In essence, } *

it was the short-term constraints that caused the Forest Service to reject one version of the strategy believed by the biologists and the silviculturalists to be the most biologically valid version of the document. Subsequent to the rejection of that draft by the Regional Forester in August 1992, the Forest Service provided for review several other versions of the interim and long-term components of the strategy. However, the basis for the prescriptions included in those versions was not considered biologically valid for the specificity in areal extent or intensity of timber removal presented.] *

Chronology of conservation strategy development and review

Immediately following the proposal to list the Mexican spotted owl in November 1991, the Service contacted Federal agencies to discuss the anticipated procedures to be followed in conferencing on actions likely to jeopardize the continued existence of the owl. The possibility of removing the identified threats to the owl through modification of timber harvest activities was discussed by representatives of the Service and Region 3 of the Forest Service. Although the necessity to remove threats range-wide was recognized as the only basis for withdrawing the proposal, the pre-eminent role of Region 3 of the Forest Service was recognized based on the following factors:

The Southwest Region (Region 3) of the Forest Service encompasses Arizona and New Mexico, the bulk of the known geographic range of the owl in the United States.

Although owls occur on lands administered by the Bureau of Indian Affairs, the Bureau of Land Management, and the National Park Service, the great majority of known owls occur on National Forests.

Forest management practices considered detrimental to the maintenance of suitable owl habitat (even-age timber harvest and steep-slope logging) within owl habitat occur on the National Forests in Region 3 far more often than in Regions 2 or 4 (Utah and Colorado) or on the other Federal lands within the range of the owl.

A conservation strategy to remove the threats to the Mexican spotted owl was the subject of discussion between and among Regions 2 and 6 of the Service and Regions 2, 3, and 4 of the Forest Service from April through August of 1992. Attachment A is a chronology of that process.

MEXICAN SPOTTED OWL DATABASE

Information specific to the Mexican spotted owl and its habitat requirements throughout its life cycle is still being gathered. To date projections by the Fish and Wildlife Service (Service) of the threats to the subspecies have been derived from the National Forest Plans prepared by the Forest Service. These plans have been the only documents available with planning information that can be used to define actions within the "foreseeable future". These data are

viewed by all researchers as only preliminary and insufficient to substantiate timber harvest prescriptions proposed by the Forest Service, either in extent of areas allowed to be treated or in intensity of timber removal.

The most serious obstacle to the development of the conservation strategy was the lack of knowledge about the Mexican spotted owl. The northern subspecies is one of the best studied birds in the United States. That subspecies has had the benefit of more than 20 years of intense research effort. Ganey did the first serious studies of Mexican spotted owls, beginning in the mid-1980s. Others began studies after 1989, so the data that are available now are preliminary. For example, the Forest Service estimate of home range size used to develop management territories is based upon 6 pairs of Mexican spotted owls on two forests in mixed conifer habitat.

The data that are available indicate that the Mexican spotted owl is biologically different from the northern spotted owl. It occupies a more heterogeneous landscape, is found in a far greater variety of habitat types, and is much more difficult to capture than the northern spotted owl. At this time, the critical need is for more information on the basic biology of the subspecies. Details of scientific knowledge of the owl are summarized in Attachment B.

IMPACTS TO FOREST LAND USES

The majority of owls occur in Arizona and New Mexico. Within these States, over 90% of known owls occur on National Forests and Indian reservations which support the majority of owl habitat, most of which is managed for timber production. Therefore, review of activities with potential to affect the quality, quantity, and distribution of owl habitat in Arizona and New Mexico has concentrated on timber harvest. Additionally, based on the types of timber management practices occurring on Federal lands, those of even-age management and steep-slope logging, prevalent on National Forests rather than Indian reservations, have concentrated review of timber harvest impacts on the National Forests of Arizona and New Mexico.

The occurrence of nesting owls in the canyons of Utah and Colorado has brought activities that occur in those habitats (grazing, utility corridors, mineral exploration and extraction) under review, but to a far lesser extent than timber harvest on National Forests in Arizona and New Mexico. Curtailment of activities deemed adverse to the continued survival of the Mexican spotted owl is likely to affect timber industry in the states of Arizona and New Mexico. However, the degree of this impact and the capacity of the industry to adapt to deal with potential modifications of harvest methodologies and systems has been greatly debated. Discussions between Service staff and representatives of the timber industry have indicated that retooling of mills is ongoing and the timber industry can adapt. The only requirement for economic longevity for the mills is some predictability or constancy, even at reduced levels of harvest.

RELATIONSHIPS BETWEEN THE ALLOWABLE SALE QUANTITY (ASQ) AND ACTUAL CUT VOLUMES ON NATIONAL FORESTS IN FOREST SERVICE REGION 3 (ARIZONA AND NEW MEXICO)

Region 3 of the Forest Service commonly has offered and sold less timber than programmed volumes in recent years. In particular, Region-wide volume has been below 300 million board feet in each year since 1990. Tables included in Attachment C provide a summary of the differences between the sale quantities allowed through the forest plans and the timber sales arising from those projections between 1984 and the present.

AVAILABILITY AND FREE EXCHANGE OF INFORMATION

During the course of review of the several iterations of the conservation strategy, Service biologists made numerous requests for information or clarification that were received delayed responses from the Forest Service. Of note were the many requests to see the alternatives being considered with the conservation strategy in the EIS. Of particular interest was the analysis of Alternative D (prohibition of all management activities in suitable habitat). It required several requests to obtain the preliminary narrative for the alternative. When finally received, it was a moot point due to the change in direction by the Forest Service and lack of progress on the EIS.

Requests for an accounting of which recommendations provided to the Forest Service during the conferencing process had been incorporated into the FY 1992 timber sale program also required lengthy periods to process by the Forest Service. The first request for the analysis was on August 14, 1992; subsequent requests were made at meetings with Forest Service staff on August 31, September 25, and October 16, 1992. A response was provided by the Forest Service by letter dated October 27, 1992, and was incomplete, thereby reducing its utility in assessing whether concerns regarding specific timber sales had been alleviated.

Of greatest impact to the formulation and review of the conservation strategy was the lack of communication regarding the August 14, 1992, draft document. Service biologists left the drafting session of August 13 and 14 with an agreement that there were two basic alternatives under consideration for the interim management:

- A. No management activities in suitable habitat.
- B. Management activities could occur in suitable habitat in delineated Habitat Management Areas, but no activities were to be allowed in core areas.

When the Service received the draft dated August 19, 1992 there had been several changes made, and the alternatives noted above were not retained in the document. Other requests made of Forest Service staff to which the Service received no response included an estimate of the board feet of harvestable timber that could be harvested under the August draft agreed to by the biologists, and the amount of timber to be harvested from the FY 1992 sale program.

**COMMITMENTS OF STAFF AND FUNDS DEEMED CRITICAL TO THE SUCCESSFUL
ACCOMPLISHMENT OF A CONSERVATION STRATEGY**

In order to expeditiously and thoroughly comply with the intent of the conservation strategy, both the Fish and Wildlife Service and the Forest Service would need to commit staff and funding sufficient to make the scientific team concept work. To that end, the agencies would have to provide the necessary funding and FTEs in FY 1993 to support three scientists from each agency full-time on the scientific team. In addition to the funding and commitment of FTEs for the team itself is the requirement of funding and staff support to ensure the on-the-ground analysis and monitoring of components of the experimental program. In addition to the participation of existing Forest Service and Service personnel in designing, monitoring, and analyzing timber sales as possible components of the experimental design, it is anticipated that an additional eight biologists (four FTEs each from the Forest Service and the Service) would be required to work with forest wildlife staff to ensure standardization and needed expertise is available for conducting the experimental program. Two administrative support FTEs (one each for the Forest Service and the Fish and Wildlife Service) would also be required. Staffing and support funds for each agency are anticipated to total \$600,000/year; research funding requirements are estimated at \$750,000/year/agency.

CHRONOLOGY -- CONSERVATION STRATEGY DISCUSSIONS

March 9, 1992 - Service received Notice of Intent to prepare an EIS published by the Forest Service in the Federal Register on March 5, 1992. The NOI cited the Fish and Wildlife Service, Arizona Game and Fish Department, and the New Mexico Department of Game and Fish as cooperating agencies in the preparation of the EIS. No contact had been made by the Forest Service with any of the three agencies prior to this publication; nor was the Service provided a copy for review before it appeared in the Federal Register.

March 17, 1992 - A meeting between the Service and the Forest Service to discuss the requirements of the Service to meet internal deadlines for review of additional information (such as the conservation strategy and the EIS) coming to bear on the analysis of threats to the owl. Dates of June 12, 1992 for the draft EIS, and September 1, 1992, for the final EIS were agreed upon and the Service started the process to reopen the public comment period to September 1, 1992.

March 31, 1992 - Service received the draft conservation strategy and requested narrative descriptions of the other alternative actions under consideration by the Forest Service for inclusion in the EIS. A new timeline was also received indicating that the EIS would not be final until October 15, 1992, 45 days later than agreed upon.

April 3, 1992 - Service advised the Forest Service that staff time constraints and requirements to maintain objectivity in assessing the need to list the owl would limit Service involvement to biological input to the strategy itself and not to documentation under NEPA.

April 15, 1992 - On request of Forest Service staff, the Service provided informal assessment of the adequacy of the strategy. Major shortcomings in the document discussed in the comments were echoed by Forest Service researchers and biologists. These included:

- o sample sizes were too small to construct statistically legitimate recommendations for territory size delineations, particularly across vegetative types.
- o no biological justifications were provided for many of the specific requirements outlined in the documents, such as desired stand structures, size of desired trees, logs, etc.
- o definition was lacking of suitable habitat throughout the range of the owl

In the absence of such needed information as that listed above, no reviewer believed the document presented a scientifically credible strategy to conserve the owl.

ATTACHMENT A

May 11, 1992 - Meeting with Forest Service. Following review, it was agreed that biologists and silviculturalists from both the Service and the Forest Service would meet informally to identify data needs and prepare, within the acknowledged constraints of a limited data base, a comprehensive conservation strategy.

May 19 and 20, 1992 - Biologists met. Staff from Regions 2 and 4 of the Forest Service, Regions 2 and 6 of the Service emphasized need to define suitable habitat for the owl, and management options to retain suitable habitat, must reflect changing conditions throughout its range, particularly in the canyons of Utah and Colorado. Basic agreement was reached on the following broad requirements to be addressed in the strategy:

- o Management strategies must be refined as data become available.
- o Strategy must include a provision for adaptation and flexibility, as more is learned about the requirements of the owl, and the impacts caused by habitat altering management actions.
- o Definitions of habitat suitability throughout the range of the owl are critically needed

May 26, 1992 - Meeting with Regional Director Spear and Regional Forester Henson to keep them apprised of staff level discussions and progress.

June 11 and 12, 1992 Service again requested narrative descriptions of other alternatives against which the conservation strategy would be assessed. One option under consideration was the potential for quantification through silvicultural analysis of existing management territories, occupied versus unoccupied sites. Service biologists and Forest Service silviculturalists reviewed possible quantification methodologies.

June 22, 1992 Coordination meetings continued among staff to address conservation strategy.

June 29 and 30, 1992 - Revised strategy document (dated June 25, 1992) distributed for review. Draft definitions of suitability in canyon habitats provided. Narrative of other alternatives to be presented in the EIS provided to the Service.

July 10, 1992 - Another strategy document distributed for review. Reviews were solicited from Forest Service researchers and independent biologists. Again, weaknesses of the plan were considered to be the lack of any scientifically defensible synthesis of data to support habitat definitions or management strategies. Copies of comments provided to the Service July 31, 1992.

ATTACHMENT A

August 10 - 14, 1992 - Meeting of biologists and silviculturalists from the Forest Service and the Service. The rough elements of the strategy are agreed upon: a definite commitment to long term experimental design to monitor and adapt timber harvest programs and other habitat-altering activities based on information to be gained; and interim constraints on stand-altering activities to protect known owls and their habitats until the long-term experimental design (via a scientific committee) could be implemented. The information was then presented to Regional Director Spear and Regional Forester Henson on August 14.

August 14, 1992 - Regional Forester Henson required review of the document by timber program analysts to determine if 300 million board feet could be harvested with it in place. Service requested analysis of recommendations provided to the Forest Service during conferencing in order to determine if recommendations to avoid jeopardy were included in the 1992 sale program. Such information would be used in deciding if the 1992 sale program should be reviewed for the interim program or could be grandfathered. The Forest Service responded that some recommendations were adopted, others were not.

August 18, 1992 - Service biologists, having participated in the formulation of the draft strategy at the Forest Service Regional Office utilizing the Forest Service computer system were not allowed to take a hard copy of the strategy from that office.

August 20, 1992 - Service biologists reconstructed elements of the strategy upon which they worked with Forest Service counterparts.

August 31, 1992 - Forest Service presented new proposals for harvest practices and canopy-closure conditions. Still no scientific validity for the selection of minimum canopy closure conditions or areas of territories treated. Forest Service stated that the originally predicted 70% canopy closure is unattainable and based on its staff's misinterpretation of research results.

September 1992 - Throughout the month, meetings were called by the Forest Service to discuss adjustments to sections of the conservation strategy; a new draft strategy was dated September 24, 1992.

September 25, 1992 - Meeting of Service and Forest Service biologists and Forest Service researchers to discuss strategy ended with the conclusion by the Forest Service experts that ultimately the course of no action would be more biologically justifiable in conservation of the owl than the actions proposed by the Forest Service for the interim.

September 28, 1992 - Meeting between Forest Service and Service biologists to reword long-term management goals and to emphasize the necessity of both agencies providing funding and staff power to fully develop and implement the long-term strategy. The Forest Service had deleted the concept of the Habitat Management Area within which the scientific team would review, monitor, and revise timber harvest practices based on the experimental design.

ATTACHMENT A

October 15 and 16, 1992 - Forest Service and Service staff met in Washington, the Service presented its "bottom line" for the interim management. Rather than attempt to justify specific harvest practices that are viewed by species experts in both agencies as unsubstantiated by data, the Service proposed that, for the interim months until long-term strategies are established, the most critical area, the 2000-acre core be delineated as a no-treatment zone and that prescriptions proposed by the Forest Service be applied outside those zones. The major element of the interim strategy was its applicability only until the long-term strategy would be in place. Forest Service staff presented a new proposal for harvest during the interim period. Staff from both agencies returned to New Mexico to review the proposal in more detail. With the exception of the specific recommendations provided on individual timber sales for which conferencing occurred, Service recommendations for interim management prescriptions followed the guidelines agreed upon by the biologists of both agencies during the August meetings.



★

INFORMATION NEEDS FOR THE MEXICAN SPOTTED OWL

Demography

At this time there are no data on adult or juvenile survivorship. There are limited data on the number of eggs laid, and there are monitoring data on pairs in most forests which provide limited data on territory occupancy rates and numbers of fledglings produced per pair. Without information on survival rates, it is not possible to calculate population trends. Without current population trend data and data on variance in productivity, it is not possible to estimate the probability of population viability. With the current paucity of data on demographic parameters we do not know if specific subsets of the population (age and/or sex classes) require special treatment.

Dispersal

Dispersal is closely related to demography. The Mexican spotted owl is distributed across the landscape in more or less isolated groups. The populations along the Mogollon Rim from central Arizona to southeastern New Mexico are mostly connected by mountain and forested habitat. Other groups are isolated from adjacent populations by desert habitats that occur between mountain ranges. Many of the populations on these isolated habitat islands are small and probably subject to periodic extinction if not rescued by dispersers.

There are few data on Mexican spotted owl dispersal. Wiley marked juvenile birds with radio transmitters in Utah this year, but he has yet to report any results. Gutierrez began banding all birds in his study areas, but his study is in its second year, and he also has not reported on dispersal. Duncan has a banding and genetics study in progress, but like the others, that study has not yet reported any results.

Habitat

Habitat conversion from a complex, multilayered canopy structure to a simple single-story canopy in even-aged stands was identified in the proposed rule as the most important threat to the owl. Identification of specific habitat features that are necessary to the owl is the first step in the development of a credible conservation strategy for a species that is habitat-dependent. Defining suitable habitat is not possible at this time. Current notions of suitable habitat are limited to the breeding season, and are generally thought to be related to limits associated with heat stress during hot weather in the summer or to prey availability.

The most suitable nesting and summer roosting habitat is fairly well characterized. There is anecdotal evidence that juxtaposition of ponderosa pine, pinon-juniper, and/or rock outcrops may be important components of foraging habitat at many sites. Many owl home ranges consist of complex mosaics of different habitat types. The importance of

close juxtaposition of different habitats, and the importance of foraging habitat characteristics is not yet understood. In Arizona, Ganey found owls foraging in habitat that would be classified as unsuitable for roosting or nesting. In the Jemez Mountains in New Mexico, the habitats that were identified as the highest quality, according to attributes important for nesting or roosting, have had lower productivity of young than home ranges that were in apparently marginal habitat. This observation must be treated cautiously because of the small sample size and the short time upon which the observation was made. There may also be seasonal shifts in habitat use between summer and winter. At the north end of the owl's range, in northern Arizona and New Mexico, and southern Utah and Colorado, the owls are found in lower elevation canyons with typical forest habitat in the canyon bottoms and more xeric types in the uplands surrounding the canyons. Wiley found that adult owls in Utah shift from cool canyon-bottom nest sites in summer to warmer upland sites with a south aspect in winter. In the center of its range there are virtually no data on winter habitat use.

In discussions about the conservation strategy with the Forest Service we found that we could not define essential qualities of suitable habitat because of a lack of data. We did identify conditions that we believe must be retained for roosting and nesting habitat to remain suitable, and thus developed an operational definition which would suffice for the short time of the 1-year interim program. We believe that this type is most threatened by current silviculture practices, and thus if it could be protected, the other types would probably be adequately retained.

Landscape Characteristics

Landscape characteristics important to owls occur at multiple spatial scales, as discussed above. At the largest scale is the distribution of birds across the landscape. Mexican spotted owls are found in groups of home ranges in suitable habitat on most mountain ranges within the species range. These groups may function as isolated sub-populations. Relatively large groups occur in the Lincoln and Gila Forests in New Mexico and on the Apache/Sitgreaves and Coconino Forests in Arizona. High densities also occur on the small mountain ranges in southern Arizona, but those populations are generally small and isolated by unsuitable desert habitats. Dispersal is probably very important to maintain those populations, but habitat conditions necessary to allow that dispersal are unknown at this time. The same is probably true for the smaller and even more isolated groups in northern mountain ranges.

At an intermediate scale, the pattern of owl habitat within a forest probably determines the locations of owl home ranges within forests. Habitat limitation related to nesting and summer roost sites is thought to control occupancy patterns. The number of pairs that occupy areas may be governed by the amount of habitat, and thus the persistence of local populations is probably related to the amount of suitable habitat. This is conjecture at this time, however, as there are no relevant data available on population trends of different sized groups. Also at the

intermediate scale is the importance of dispersal habitat between groups of owls. Within forests, there are probably forest conditions that produce variance in dispersal success. There are no data at this time on habitat requirements for dispersal, either among or within forests.

Within territories the juxtaposition of stands may be an important attribute if the birds roost in one habitat type and forage in another. Stand type juxtaposition pattern may also be an important attribute to determine whether a bird winters on its breeding territory or moves off during the winter. In many bird species, winter movements are associated with very high adult mortality. If Mexican spotted owls are long-lived birds like the northern subspecies, increased winter movement, with attendant mortality, could destabilize populations.

Finally, patterns of trees within stands may determine suitability for a variety of uses. Breaking of stands of nesting/roosting habitat by small group selection harvests may change thermal patterns, allow incursions by predators or competitors, or affect prey abundance, either positively or negatively. The Forest Service has adopted management guidelines for the northern goshawk designed to enhance that species' prey abundance by creation of small openings. A potentially important effect of that management is small-scale habitat fragmentation. Such fragmentation may have a variety of adverse effects on owls, including increased predation, as discussed below.

No research has been done on the importance of scale factors for the Mexican spotted owl. The lack of information combined with theoretical concerns mandates a cautious approach to management.

Predator and prey relations

Predation was identified in the Proposed Rule as a concern associated with habitat fragmentation. Although the greatest threat to the owl is believed to be habitat conversion, the fragmentation produced by extensive group selection harvests may also become important. The predators that are likely to benefit the most from fragmentation are the great horned owl and the red-tailed hawk. Both species are believed to be important predators on Mexican spotted owls. Spotted owls are not as wary of predators as many other species, probably because they are usually found during daytime in stands that are too dense for efficient foraging by large avian predators. When the habitat is fragmented and made available to these birds, owls are highly susceptible.

Several studies have investigated prey habits of Mexican spotted owls. Most have identified woodrats as the predominant prey species with lesser numbers of other rodents, rabbits, birds and insects. No studies have reported the relationship of prey abundance in different habitat types with Mexican spotted owl foraging. Ward has such a study underway on the Lincoln National Forest in New Mexico, but he radio tagged birds in summer and fall 1992, and has no results to report at this time.

Management effects

Several aspects of management activities might have negative impacts on Mexican spotted owls. Some of these are disturbance associated with the use of chain saws and heavy equipment that are used in timber harvest, use of heavy equipment to build and maintain roads, increased recreational activity following the development of roads, various modifications of habitat that follow different types of stand-modifying harvests, habitat reduction and fragmentation that result from timber harvest under different regimes.

One of the primary goals identified for the long-term portion of the conservation strategy was for the scientific committee to develop experiments to identify management practices that would minimize effects on the Mexican spotted owl. At this time we only have a poor understanding of the habitat needs of the owl, and we know less about its response to various timber management practices.

1984-1992 USFS SOUTHWEST REGION TIMBER PROGRAM

	FISCAL YEAR								
	1984	1985	1986	1987	1988	1989	1990	1991	1992
(MMBF) PROGRAM	507	457	434	413	398	405	395	380	386
OFFER	479	413	441	407	373	358	281	235	143
SOLD	286	236	338	377	321	348	272	227	139
CUT	306	276	331	387	391	412	343	211	223

MMBF = Million Board Feet

PROGRAM = Planned annual volume

CUT = Volume harvested; may include volume sold in previous years

OFFER = Volume put up for sale

SOLD = Volume awarded

APACHE-SITGREAVES (ASQ-99)

CARSON (ASQ-95)

CIBOLA (ASQ=7).

COCOHINO (ASQ-89)

CORONADO (ASQ=0)[illegible]

GILA (ASQ=30)

(MMBF)	84	85	86	87	88	89	90	91	9
PROGRAM	46.0	27.0	34.6	32.3	31.8	31.4	27.0	26.0	26.
OFFER	41.3	31.4	33.6	32.3	31.7	35.7	25.2	19.7	14.
SOLD	0.8	10.4	29.8	32.3	31.8	35.7	25.2	19.7	14.
CUT	19.0	25.5	29.8	30.4	39.2	45.2	28.7	10.0	25.

KAIBAB (ASQ=72)

(MMBF)	84	85	86	87	88	89	90	91	9
PROGRAM	90.0	65.0	79.3	60.8	71.2	82.0	73.0	66.0	75.
OFFER	90.4	71.2	74.8	68.7	72.9	78.6	64.0	22.0	23.
SOLD	86.1	48.7	74.7	63.0	57.9	74.5	64.0	22.0	23.
CUT	73.4	68.0	64.1	78.2	74.7	77.8	64.6	42.8	37.

LINCOLN (ASQ=15)

(MMBF)	84	85	86	87	88	89	90	91	9
PROGRAM	12.0	11.0	17.5	15.0	14.6	12.2	15.0	13.7	5.
OFFER	12.4	8.3	16.1	15.2	11.7	12.0	3.3	3.7	4.
SOLD	4.9	8.2	16.1	15.2	11.7	12.0	3.3	3.7	4.
CUT	7.8	10.5	9.6	16.3	19.4	13.9	11.1	4.1	1.

PRESCOTT (ASQ=0.9)

(MMBF)	84	85	86	87	88	89	90	91	9
PROGRAM	3.0	2.0	3.0	3.8	2.1	3.1	1.0	1.0	5.
OFFER	2.3	3.8	4.0	3.7	2.1	6.7	0.8	0.7	0.
SOLD	2.3	3.8	1.5	3.7	2.1	6.7	0.8	0.7	0.
CUT	0.6	0.0	0.4	0.7	0.8	2.6	1.1	0.5	0.

SANTA FE (ASQ=39)

(MMBF)	84	85	86	87	88	89	90	91	9
PROGRAM	48.0	35.0	39.3	54.5	41.8	42.6	41.0	39.0	31.
OFFER	40.2	2.9	49.8	71.5	43.6	22.0	21.5	32.1	3.
SOLD	35.2	2.9	41.6	62.6	39.3	22.0	17.0	31.7	0.
CUT	31.5	36.4	36.0	41.3	35.3	42.3	28.9	11.7	10.

TONTO (ASQ=6.1)

(MMBF)	84	85	86	87	88	89	90	91	9
PROGRAM	10.0	5.0	7.8	6.0	5.8	6.1	6.0	6.7	9.
OFFER	9.6	10.4	7.8	7.4	5.8	7.0	6.8	10.4	6.
SOLD	2.8	1.1	7.2	5.9	5.8	7.0	6.7	9.1	5.
CUT	5.1	0.1	1.5	0.7	5.0	3.0	6.8	5.3	0.

ATTACHMENT C

1984-1992 USFS SOUTHWEST REGION TIMBER PROGRAM

REGION 3 (ASQ=390)

	FISCAL YEAR								
	84	85	86	87	88	89	90	91	92
(MMBF) PROGRAM	507	457	434	413	398	408	395	380	386
OFFER	479	413	441	407	373	358	281	235	143
SOLD	286	236	338	377	321	348	272	227	139
TOT	306	276	331	387	391	412	343	211	223

ARIZONA (ASQ=267)

	84	85	86	87	88	89	90	91	92
(MMBF) PROGRAM	336	324	290	277	271	280	270	264	270
OFFER	328	326	285	256	248	260	189	166	116
SOLD	209	190	213	236	206	252	198	159	115
TOT	217	182	225	274	269	286	240	167	173

NEW MEXICO (ASQ=123)

	84	85	86	87	88	89	90	91	92
(MMBF) PROGRAM	171	133	144	136	127	126	125	116	116
OFFER	151	88	155	151	125	99	82	69	27
SOLD	77	46	125	141	115	96	74	67	24
TOT	89	94	106	113	123	127	103	44	51

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