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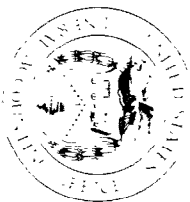
United States General Accounting Office

Report to the Honorable
Alan Cranston, U.S. Senate

March 1991

PUBLIC LAND
MANAGEMENT

Attention to Wildlife Is
Limited



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**Resources, Community, and
Economic Development Division**

B-241613

March 7, 1991

The Honorable Alan Cranston
United States Senate

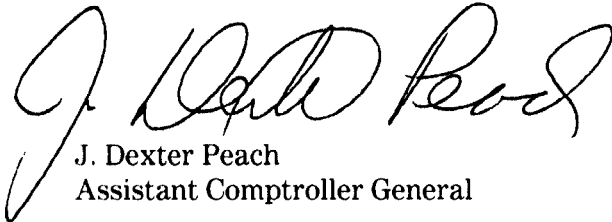
Dear Senator Cranston:

This report responds to your request that we review the management of wildlife on the public lands. It specifically addresses your questions concerning whether wildlife interests are being appropriately considered during the federal land use planning processes and what the impact of federal management practices is on wildlife conditions.

As agreed, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of this letter. At that time, we will send copies to the Secretary of the Interior and interested Members of Congress, and make copies available to others upon request.

This work was performed under the direction of James Duffus III, Director, Natural Resources Management Issues (202) 275-7756. Other major contributors are listed in appendix III.

Sincerely yours,

A handwritten signature in cursive script that reads 'J. Dexter Peach'.

J. Dexter Peach
Assistant Comptroller General

Executive Summary

Purpose

For a number of wildlife species, federal lands provide virtually all the habitat needed for their survival. However, these same lands are in increasing demand for a host of other uses, such as mining, grazing, and logging, that frequently conflict with wildlife protection and enhancement objectives. Managing these conflicts has become a major concern of federal land management agencies.

In this context, Senator Alan Cranston asked GAO to determine (1) whether federal land management agencies are appropriately considering the interests of wildlife in their planning and resource management activities and (2) what the impact of federal policies and practices is on the overall condition of wildlife on federal lands.

Background

The Forest Service in the Department of Agriculture and the Bureau of Land Management (BLM) in the Department of the Interior are the primary federal land managing agencies, together managing 461 million acres of public lands. These lands provide habitat for 3,000 fish and wildlife species, many of which are threatened with extinction. These lands also provide forage for millions of cattle and sheep, more than half of the nation's standing softwood timber, and a substantial portion of known domestic mineral reserves. Recognizing the value of these lands to many different users, the Congress has directed that, with few exceptions, the land management agencies conduct resource management using the principles of multiple use and sustained yield. Under these principles, as land use decisions are made, wildlife needs are to be considered in balanced fashion alongside commodity production activities in a manner that conserves resources for future generations.

The **National** Forest Management Act and the **Federal** Land Policy and Management Act require the Forest Service and BLM, respectively, to develop comprehensive land use plans to guide their management efforts. Nationwide, the Forest Service is preparing 123 forest plans and BLM is preparing 136 comparable documents known as resource management plans. These broad plans are then supplemented by more detailed activity or resource-specific plans such as wildlife habitat management plans, timber management plans, and mining plans.

Results in Brief

Under the multiple-use and sustained-yield principles, no explicit legislative standards define the level of consideration that federal agencies should provide to wildlife needs as they balance competing resource demands. Therefore, no definitive basis exists to judge whether these

agencies are appropriately considering wildlife in their land use planning and resource management decisions. GAO found that wildlife management receives only a small percentage of available staffing and funding. Further, while wildlife needs were uniformly considered during land use planning at the locations we visited, in some cases, the agencies' choice of consumptive interests in land use decisions adversely affected wildlife. Moreover, when actions to benefit wildlife are included in land use plans, they are frequently not performed.

Data are not available to judge the overall effect of BLM and Forest Service policies and practices on wildlife conditions. Although agency regulations require the monitoring of how land use plans are carried out, the monitoring has generally not been performed and little data have been collected. The sparse data that are available identify a number of examples in which land management decisions have had negative impacts on wildlife populations.

No single reason fully explains the limited attention provided by the Forest Service and BLM to wildlife protection and enhancement objectives. A key factor, however, centers around traditional agency deference to consumptive uses of the land. Agency land use priorities, budgets, and staffing have often reflected the pattern of meeting grazing, logging, and mining objectives first and providing for wildlife as circumstances permitted. Both agencies have recognized this pattern and have initiated efforts to provide more balanced consideration of wildlife needs in their management activities. More experience is needed to determine how successful these efforts will be.

Principal Findings

Legislation Does Not Specify Level of Consideration for Wildlife

The legislation establishing the multiple-use and sustained-yield principles identifies the provision of wildlife habitat as a public land use that merits consideration as the Forest Service and BLM conduct their land management activities. However, the legislation does not specify a level of consideration for wildlife, or any other use, that would be considered appropriate. Accordingly, the agencies are left to apply their own priorities in allocating budgetary resources and making land use decisions. While having wide discretion in assigning priorities among various land uses, the agencies may not authorize levels of use that permanently degrade the land's capacity to provide for future generations.

Wildlife Needs Assigned Limited Resources and Lesser Land Use Priority

Wildlife protection and enhancement receives only a small percentage of available staffing and funding. In recent years, wildlife programs have received between 3 and 7 percent of available funding in both BLM and the Forest Service compared with up to 33 percent for minerals, timber, and range programs in BLM and up to 37 percent for Forest Service timber programs. Staff resources are similarly proportioned.

Further, while both the Forest Service and BLM consider wildlife needs during their land use planning processes, some actions that agency biologists consider important to wildlife protection are often not incorporated into approved plans. The documentation GAO examined also demonstrates that in a number of cases, agency managers chose other uses such as livestock grazing or timber harvesting when those interests conflicted with wildlife needs.

Even when wildlife-beneficial actions are included in approved land use plans, they have usually been implemented only partially or not at all. The 51 plans GAO examined contained 1,130 wildlife-related action items due to have been conducted prior to GAO's review. Of these, 39 percent had not been started at all, 22 percent had been partially completed, and 33 percent had been fully completed, according to available documentation. Agency biologists believe the action items not completed often included the most critically important tasks, especially monitoring to determine the impacts of the plans on wildlife.

Deference to Competing Land Uses

A variety of factors contribute to the agencies' limited attention to wildlife programs. GAO believes, however, that deference to grazing, logging, mining, and other consumptive interests is an important factor. As GAO has stated in previous reports and testimonies, BLM, in particular, has been concerned with satisfying the needs of these interests to the detriment of other land uses and the overall health of the land itself.

In some instances, agency deference has been mandated by federal statutes that, unlike the multiple-use and sustained-yield principles governing management on most federal lands, grant precedence to certain commodity production, such as timber. In most cases, however, the deference occurs because discretionary agency management priorities have been oriented in that direction. For example, one land use plan GAO examined called for BLM to reduce livestock forage consumption because 73 percent of the area was in fair or poor condition and unable to support various wildlife populations. The plan still called for giving most of the allocated forage—96 percent—to livestock, as compared with about

1 percent for wildlife. Since the plan's adoption in 1983, however, essentially no livestock forage reduction has occurred.

Both the Forest Service and BLM have recently recognized the need to provide more balanced management of the public lands. Agency budgets for wildlife programs have begun to increase, and agency managers have expressed a commitment to alter their land use priorities to provide more balanced treatment of wildlife and other land uses. For example, the Chief of the Forest Service recently announced a strategic plan for the next 5 to 10 years that emphasized enhancement of the forests' wildlife resources and more environmentally responsible commodity production activities. Likewise, through its Fish and Wildlife 2000 initiative, BLM plans to provide a sharper focus for its wildlife protection and enhancement activities.

Limited Data on Overall Wildlife Condition

The Forest Service and BLM have not performed the wildlife monitoring necessary to produce comprehensive data on the current habitat conditions and population trends for the thousands of wildlife species using public lands. These data limitations preclude an overall judgment on the health of wildlife on public lands or the effects of federal management efforts. The data that are available demonstrate that while a relatively few species, especially game animals, have recovered from historical lows, many others may not be faring as well in part because of public lands habitat deterioration.

Matters for Congressional Consideration

Existing legislation setting forth the multiple-use and sustained-yield principles for managing the public lands does not spell out the level of consideration that land management agencies are to give to wildlife enhancement and protection. In this context, the agencies have chosen to devote a small share of budgetary resources and assign low land use priority to wildlife objectives. There are signs that the agencies plan to increase the level of attention provided to wildlife management in the future. If the Congress disagrees with the resources and priorities provided for wildlife management, it may wish to spell out its expectations more explicitly in legislation.

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Abbreviations

ACEC	Area of Critical Environmental Concern
AMP	Allotment Management Plan
BLM	Bureau of Land Management
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Policy and Management Act
GAO	General Accounting Office
HMP	Habitat Management Plan
MFP	Management Framework Plan
RMP	Resource Management Plan

Introduction

Lands managed by two federal agencies—the Bureau of Land Management (BLM) in the Department of the Interior and the U.S. Forest Service in the Department of Agriculture—provide important habitat for many species of wildlife. For some species, these lands provide virtually all of the habitat needed for their survival. Recognizing the importance of these lands for protecting and enhancing wildlife populations, the Congress has required the two agencies to consider the provision of wildlife habitat along with other uses of the lands and resources in their planning and management activities.

Besides supporting wildlife, BLM and Forest Service lands have many uses. These lands provide timber, minerals, livestock forage, water supply, recreation, and other resources. Because these uses are so diverse, they may conflict. Such conflicts vary by region and create challenges for agency planners and managers to reconcile. In some cases, certain wildlife populations have suffered when land management plans and actions have favored consumptive uses such as timber harvesting, livestock grazing, and motorized recreation that severely damaged important wildlife habitats; in other cases, consumptive uses have been reduced to provide wildlife habitat. As demand for use of these lands grows, satisfying the competing interests becomes more difficult.

Importance of Federal Lands as Wildlife Habitat

Nationwide, BLM and the Forest Service manage 461 million acres of public lands that provide habitats for 3,000 species of mammals, birds, fish, reptiles, and amphibians, including about one-third of the federally listed threatened or endangered species.¹

Among the 191 million acres of forests and grasslands managed by the Forest Service are some of the nation's largest pristine areas, including 79 percent of the designated wilderness² in the contiguous 48 states. National forest lands provide habitat for 93 federally threatened or endangered vertebrate species. Forest Service lands are particularly important for the survival of threatened and endangered species that require large undisturbed areas, such as the grizzly bear and gray wolf, as well as those dependent upon mature and old-growth forests like the red-cockaded woodpecker and northern spotted owl. Forest Service

¹Under the Endangered Species Act of 1973, "endangered" species are those determined to be in danger of extinction and "threatened" species are those likely to become an endangered species within the foreseeable future.

²Under the Wilderness Act of 1964 (16 U.S.C. 1131-1136) a wilderness should retain its primeval character without permanent improvements or human habitation and it should be protected and managed so as to preserve its natural conditions.

lands also supply more than half of the nation's big-game animal habitat. For example, approximately 93 percent of the nation's elk population spends at least part of each year on national forest lands.

BLM-managed lands, which comprise more than 270 million acres, contain virtually every major type of ecosystem³ found west of the Mississippi, including deserts, arctic plains, old-growth forests, and high mountain plateaus. BLM lands, including some designated wilderness areas, provide 80 percent of the nation's habitat for desert bighorn sheep, the continent's most concentrated nesting population of birds of prey, and 103 federally listed threatened or endangered animal species, along with 250 additional species being considered for listing. Most BLM lands outside of Alaska are located in the generally arid western states. These lands contain about 1.2 million acres of riparian areas—bands of green vegetation along the banks of rivers, streams, and other waters—that are especially important to wildlife. In some areas, as much as 80 percent of terrestrial wildlife species are directly dependent upon riparian habitat.

Other Uses of Federal Lands

In addition to wildlife habitat, public lands in the United States provide other valuable resources and uses, including timber, minerals, energy reserves, livestock forage, water supply, and recreational opportunities. For example, forest lands managed by the Forest Service contain nearly half of the standing softwood sawtimber in the United States, most of which is in old-growth stands of the West. Livestock graze on about 50 million of the 104 million acres of national forest lands divided into range allotments. Approximately half of the West's water supply originates on national forest lands.

On BLM lands, livestock grazing occurs on approximately 165 million acres. Eight million acres of BLM lands are classified as commercial forest land suitable for timber harvests. Over 2 million of these acres are the highly productive forests in western Oregon which account for almost 90 percent of BLM's timber production. BLM's responsibility for administering exploration and development of energy and mineral reserves includes both BLM lands as well as lands for which the federal government owns mineral rights but that are managed by other federal agencies, states, or private owners. These lands contain 33 percent of the nation's coal, 35 percent of its uranium reserves, 60 percent of its

³BLM defines ecosystem as an interacting natural system including all the component organisms together with the abiotic (nonliving) environment that comprises a functioning whole.

geothermal resource areas, 75 to 80 percent of its oil-shale and tar-sand reserves, as well as major deposits of molybdenum, phosphate, sodium, lead, zinc, and potash.

Managing Wildlife Habitats on Federal Lands

Recognizing the challenge confronting federal land managers, the Congress directed BLM and the Forest Service to conduct resource management under the principles of multiple use and sustained yield. Congressional direction in this regard is mainly in two laws—the Multiple-Use Sustained-Yield Act of 1960 (16 U.S.C. 528 et seq.) and the Federal Land Policy and Management Act of 1976 (FLPMA 43 U.S.C. 1701 et seq.). In these laws, the principle of multiple use is generally defined as the management of all the diverse resource values of the land so that they are utilized in a combination that best meets the needs of the American people, without permanent impairment of the land's productivity. Under multiple use, the desired combination of diverse uses is to be arrived at in a balanced fashion that takes into account the long-term needs of future generations for renewable and nonrenewable resources. Wildlife and fish are specifically listed among the resources to be balanced as land management decisions are made. Importantly, the laws also point out that the best management combination is not necessarily the one producing the greatest dollar return or greatest unit output. The laws define sustained yield as the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the land consistent with multiple use. Such use cannot impair the productivity of the land.

Wildlife is one of the interests, along with grazing, mining, recreation, water quality, timber harvests, and others, that federal land managers are to balance in the context of the broad multiple-use and sustained-yield mandate.

Agency Planning Activities Under the Multiple-Use and Sustained-Yield Principles

FLPMA and the National Forest Management Act of 1976 require BLM and the Forest Service, respectively, to develop comprehensive land use plans using the multiple-use and sustained-yield mandate. Such comprehensive plans, called "forest plans" by the Forest Service and "resource management plans" by BLM, describe standards, guidelines, and goals for each of the resource uses on the land covered by the plan, as well as the mix of resource uses permitted. Prior to the passage of FLPMA in 1976, the BLM planning process produced "management framework plans" that contained broad management guidance for some BLM lands. The management framework plans produced as the planning process was being

revised incorporated many of the requirements contained in FLPMA. Some of these management framework plans will remain in effect until replaced by resource management plans.

The Forest Service is responsible for developing 123 forest plans to guide management on the 156 national forests (some plans cover more than one forest). These plans establish management standards and guide all natural resource management for each forest. As of December 1990, 114 forest plans were completed, 8 were in draft form, and 1 was being developed, according to Forest Service officials. BLM's resource management plans and management framework plans contain management direction for large geographical areas, typically about 1 million acres, for a 10- to 20-year period. BLM is preparing 136 resource management plans to guide management for all BLM lands and to replace existing management framework plans by 1997. As of June 1990, BLM had approved 63 resource management plans and had an additional 42 under development.

These broad plans are supplemented by more detailed activity plans, such as Timber Management Plans, (grazing) Allotment Management Plans, and Species or Habitat Management Plans. Detailed plans for special management areas such as Wilderness Areas, Areas of Critical Environmental Concern, and Wild and Scenic River Areas also supplement the comprehensive land use plans.

The development of agency plans is a complex process which often takes several years to complete. Identifying issues and developing alternatives requires detailed analysis of resource conditions, public participation, and interagency review. The public can appeal most decisions made by the Forest Service or BLM through the administrative appeals procedure. Opportunities for relief through the judicial system remain after administrative remedies are exhausted. The resolution of appeals can delay implementation. Plans are implemented following approval by agency officials and after the period for public appeal has passed. Once implementation begins, plans are to be periodically monitored to determine progress in meeting goals and objectives.

Management of fish and wildlife on public lands is a cooperative effort between state and federal agencies. Traditionally, the responsibility has been divided: except for federally listed threatened or endangered species, state agencies have lead responsibility for fish and wildlife populations, while federal agencies have responsibility for fish and wildlife

habitat.⁴ In practice, however, federal and state agencies cooperate closely to develop plans and strategies for managing fish and wildlife on public lands. Such wildlife plans, prepared in conformity with the guidance contained in comprehensive land use plans, are the basis for most wildlife management on federal lands.

Agency Policies Toward Resource Management

Both the Forest Service and BLM have policies in place that recognize wildlife enhancement and conservation as important federal land management objectives. With respect to the Forest Service, agency resource management policies call for equal consideration of fish and wildlife habitats with other resources such as timber, range, recreation, and watershed. Agency goals for habitat management include: (1) recovery of threatened and endangered species, (2) maintenance of viable populations of all vertebrates and plants, and (3) production of certain other featured species within a balance of public demand, multiple-use/sustained-yield objectives, and resource allocation. Habitat mitigation and improvement projects can be used to meet these goals.

To ensure diversity of plant and animal communities, Forest Service regulations require maintenance of viable populations, or populations having sufficient numbers and distribution to assure well-distributed continued existence in the planning area. To maintain viable populations, each forest selects "management indicator species." These species are then tracked to provide an indication of biological changes in the environment and/or the health of groups of other species. Management indicator species may include species with special protection needs or habitat requirements that could be seriously affected by proposed management activities. They are used to estimate the effects of various management alternatives before a plan is finalized and to monitor the effects of management decisions on viable populations once a plan is approved.

While BLM management policy assigns no overall priority to any specific use of the public lands, with respect to wildlife, BLM policy is to manage habitat with an emphasis on ecosystems to ensure self-sustaining populations and a natural abundance and diversity of wildlife on public lands. To fulfill this responsibility, BLM is required to: (1) prepare and maintain an ongoing inventory of wildlife resources, (2) ensure full consideration of wildlife in agency plans, (3) develop and implement habitat

⁴Under the Endangered Species Act of 1973, the conservation of federally listed threatened and endangered species became a responsibility of all federal agencies.

management plans identified during the planning process, and (4) monitor ongoing management actions to determine if habitat management objectives are being met.

Some BLM lands—2.1 million acres of timber in western Oregon—are not managed for multiple use, but instead are managed for permanent forest production as required by the Oregon and California Lands Act of 1937. FLPMA created an exemption from its requirements for these lands whenever the two laws are in conflict over management of timber resources and distribution of timber revenues. The Oregon and California Lands Act is a dominant-use statute, placing timber production as the priority value among various land uses.

Agency Organizational Structures

Both BLM and the Forest Service carry out their public lands management responsibilities under highly decentralized organizational structures. While policies are largely established at headquarters, they are implemented in the field. In BLM, field operations are implemented by 12 state offices, 59 district offices, and 146 resources area offices. In the Forest Service, management is carried out by staff assigned to the 156 national forests and their associated ranger districts.

Objectives, Scope, and Methodology

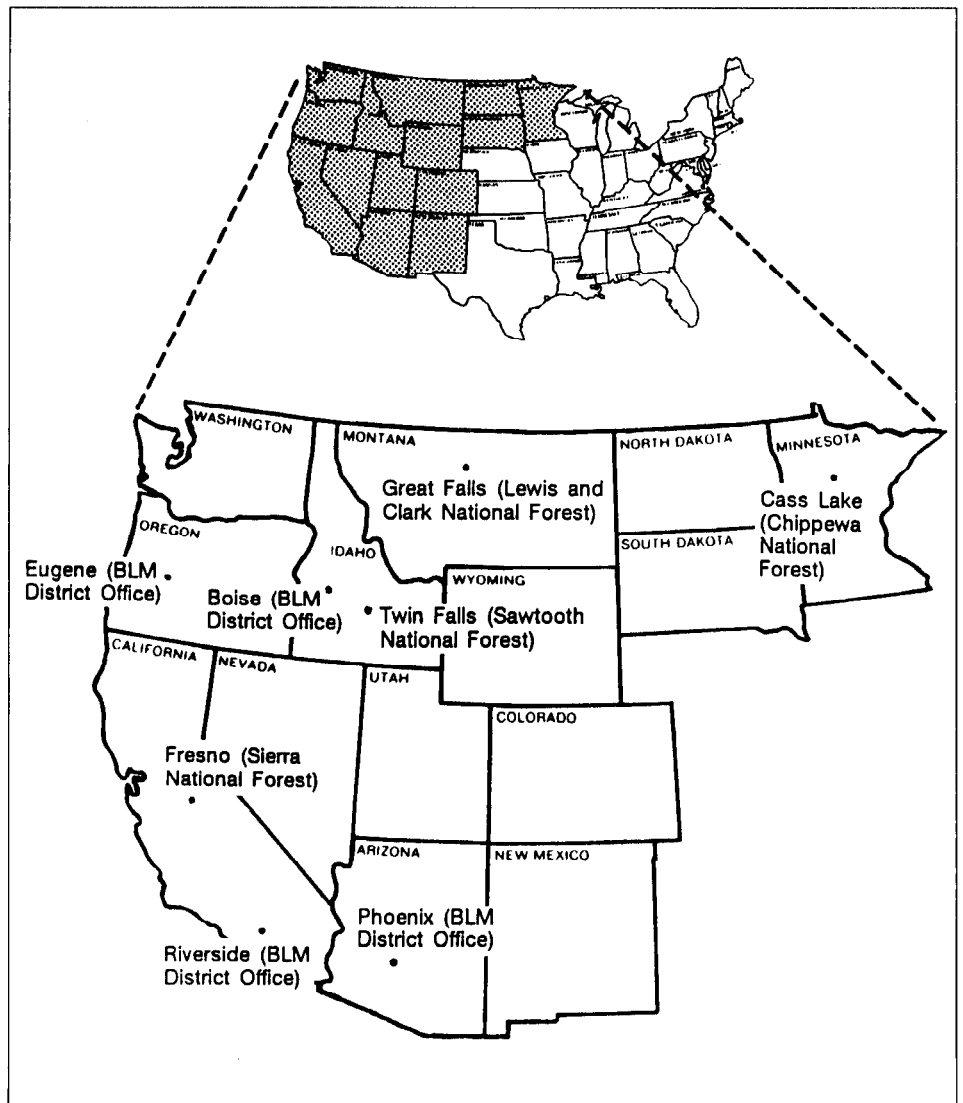
Because of concern about the consideration that wildlife interests receive in multiple-use and sustained-yield planning and land management, Senator Alan Cranston asked us to examine BLM and Forest Service efforts in protecting and enhancing wildlife on public lands. Specifically, he asked us to answer the following questions:

- Is the congressional mandate to protect wildlife as one of the land's multiple uses appropriately considered in the planning processes of BLM and the Forest Service?
- What impact do current federal policies and practices have on the overall condition of wildlife on public land?

To address these questions, we selected 4 of BLM's 59 districts and 4 of the 156 national forests for detailed review of the agencies' multiple-use/sustained-yield plans. We chose the eight locations, shown in figure 1.1, to provide coverage of various types of wildlife habitat, multiple-use/sustained-yield planning conflicts, and geographic areas. BLM and Forest Service officials responsible for wildlife habitat management agreed that the locations represented a cross section of agency wildlife

habitat planning and management. Appendix I contains a detailed list of the plans and related documents we reviewed at each location.

Figure 1.1: Administrative Offices of Locations Visited During GAO Review



This report presents the results of our review of all eight locations. As agreed with the requester, the results of our review of BLM's California Desert Conservation Area were reported separately in June 1989.⁵

⁵California Desert: Planned Wildlife Protection and Enhancement Objectives Not Achieved (GAO/RCED-89-171, June 23, 1989).

To address the first question—whether the congressional mandate to protect wildlife is appropriately considered in the planning processes of BLM and the Forest Service—we reviewed laws that address the multiple-use and sustained-yield mandates on the public lands, as well as laws governing endangered species, agency planning, minerals, and the Oregon and California Lands Act. We also reviewed BLM and Forest Service regulations, policies, and plans that directly or indirectly relate to wildlife on lands under their control. In summary, the agency documents we reviewed include

- 15 comprehensive land use plans such as final and draft forest plans, management framework plans, resource management plans, and any related amendments to those plans;
- 75 wildlife plans including habitat management plans; species recovery plans; fish and wildlife action plans; and the wildlife portions of wilderness, fire, travel, and special management area plans;
- 20 monitoring plans and implementation progress reports; and
- 78 site-specific activity plans such as timber management and sale plans, grazing management and allotment plans, mineral operating plans, and related environmental analyses.

Of the 188 wildlife-related plans, we selected 51 for detailed analysis. Our selection was based on two criteria: (1) these plans had documentation with which to measure implementation progress and (2) agency officials believed these plans were representative of their planning efforts.

To address the second question—what impact current federal policies and practices have on the overall condition of wildlife on public lands—we discussed the issue with various federal, state, interest group, and industry representatives. We examined agency records on the implementation of the wildlife provisions contained in the plans we reviewed. We also reviewed federal, state, and private organization reports assessing the condition of wildlife. The people whose views we obtained include

- federal agency officials responsible for wildlife programs or aspects of the program such as wildlife biologists, forest supervisors, district rangers, range conservationists, district managers, resource area managers, and planners;
- officials from state fish and wildlife agencies including game and non-game biologists, wildlife coordinators, and planning coordinators;

-
- representatives from state and national environmental interest groups including the National Wildlife Federation, Sierra Club, Defenders of Wildlife, and Desert Protective Council, Inc.; and
 - representatives from the timber and grazing industries as well as from a coalition of desert users including motorized recreationalists, livestock grazers, and miners.

Our review was performed between February 1988 and August 1990. We discussed a draft of this report with Forest Service and BLM officials in Washington, D.C., and they generally agreed with the results of our work. Our work was conducted in accordance with generally accepted government auditing standards.

BLM and Forest Service Provide Limited Consideration of Wildlife Needs in Managing Public Lands

Under the multiple-use and sustained-yield principles, there are no explicit legislative standards that define the level of consideration that should be provided to wildlife as the needs of various resources are being balanced. Without measurable criteria, there can be no definitive judgment on whether the agencies are appropriately considering wildlife needs in their public lands management. However, we found that wildlife receive only a small fraction of available staffing and funding. Also, for the land use plans we reviewed, when conflicts occur between various uses, decisions frequently favored consumptive uses such as mining and timber even though agency managers recognized that the decisions would adversely affect wildlife. Finally, even when wildlife objectives are incorporated in agency plans, for the locations we visited, the action items to accomplish those objectives are often not implemented.

The overall effect of BLM and Forest Service policies and practices on wildlife conditions cannot be judged because comprehensive monitoring data necessary for such judgments have not been developed by the agencies. The limited data available for the areas we reviewed, however, suggest that the agencies' performance has, in a number of cases, contributed to the declining health of wildlife habitats and reductions in wildlife populations.

Existing Legislation Does Not Prescribe Level of Attention to Be Provided to Wildlife

The laws that require the agencies to apply the principles of multiple use and sustained yield in their resource management plans do not give specific direction or standards to use in deciding how much emphasis to give to the competing and often conflicting uses of the natural resources. The laws generally emphasize that the agencies are to (1) use an interdisciplinary approach to land use planning; (2) assure balanced, harmonious, and coordinated management of the various resources; and (3) ensure consideration of wildlife as one of the land's major uses. Beyond identifying the values to be considered, the laws provide no method for the agencies to determine the degree of consideration that each value should receive. Accordingly, a level of consideration given to wildlife, or any other use for that matter, could be considered balanced by one observer and unbalanced by another.

While providing no clear guidance on prioritizing various land uses, the laws require land use activities to be managed in a fashion so that the land's productivity is maintained in perpetuity. Accordingly, BLM and the Forest Service may not authorize a level of use by any activity that degrades the land for future generations. For example, the agencies

cannot authorize domestic livestock grazing at levels which permanently degrade rangeland resources.

Wildlife Receive Small Share of Available Agency Resources

While no criteria are available to assess whether wildlife are receiving appropriate consideration as BLM and the Forest Service manage the public lands, ample evidence suggests that the consideration provided to wildlife is below that provided to consumptive uses such as livestock grazing, logging, and mining. First, with respect to funding and staffing, wildlife have characteristically received a much lesser share of the resources than that devoted to consumptive uses. The shortage of funds for wildlife has, in many locations, blocked substantive wildlife enhancement efforts.

Funding and Staffing Breakout

Wildlife funding and staffing have, in both agencies, begun to improve following a period characterized by an increased workload to meet mandated planning requirements and little or no growth in available resources. However, officials at both BLM and the Forest Service reported that, despite funding increases in fiscal years 1990 and 1991, wildlife programs are operating at less than 50 percent of the amount needed to achieve planned wildlife program objectives.

In fiscal years 1985 through 1989, Forest Service appropriations for wildlife and fish habitat management averaged about \$45.7 million each year, about 4 percent of total national forest system appropriations for the period. In the same period, appropriations for timber sales administration and management and related road maintenance and reforestation programs averaged about \$325.7 million each year, or 26 percent of total appropriations. Staffing patterns reflect a similar distribution: an average of 4 percent of agency staff resources are assigned to the wildlife program, compared with 30 percent for timber sales and related programs.

For the same period at BLM, funding for the wildlife habitat management program has averaged about \$17.3 million each year, about 3 percent of total agency appropriations. By comparison, 34 percent of BLM's budget was devoted to the management programs for three consumptive uses: energy and minerals, timber, and range. In terms of staffing, 3 percent of BLM's staff resources were assigned to the wildlife program, compared with 39 percent for the energy and minerals, timber, and range programs.

In 1990, both agencies announced that wildlife interests would receive increased emphasis in the allocation of available resources. Preliminary figures for fiscal year 1990 indicated that wildlife resources at both agencies increased. However, the same rough proportions between wildlife and consumptive use programs were maintained. In the Forest Service, funding for wildlife management increased to above 7 percent of national forest system appropriations, while funding for timber-related programs increased to 37 percent. During fiscal year 1990, BLM wildlife funding increased to about 5 percent of total appropriations, while the three main consumptive use programs received about 33 percent. As of January 15, 1991, final fiscal year 1990 figures for staffing were not available from either agency.

For the current fiscal year, 1991, the Forest Service wildlife appropriation rose to over 8 percent of national forest system appropriations, with timber programs falling to about 33 percent. At BLM, wildlife and consumptive use program appropriations for fiscal year 1991 remain at 5 and 33 percent, respectively.

Moreover, a significant portion of the resources counted as part of the wildlife budget are actually used to support consumptive use programs. Agency officials at several locations told us that the wildlife staff shortage is intensified because wildlife biologists spend up to 70 percent of their time reviewing mining, logging, and grazing plans. This use of staff time occurs because agencies must provide plan review by a variety of resource specialists to meet legislative requirements and because some types of plans have required response deadlines. Although comments on nonwildlife plans may help reduce the negative impact of consumptive activities on wildlife if suggested mitigation measures are adopted, such reviews reduce the time spent on proactively preparing, implementing, and monitoring habitat management and other plans to improve wildlife habitat conditions.

A further indication of how various land management goals fare under multiple-use considerations is the distribution of funds collected from various user fees, such as grazing fees and timber sale receipts. Both BLM and the Forest Service collect several types of user fees, a portion of which is returned to the local level and used to fund various development or enhancement projects. The selection of projects at the locations we reviewed, particularly by BLM, again reflected the pattern of giving little attention to wildlife.

BLM collects grazing fees from livestock operators whose herds consume forage on public lands. Fifty percent of these fees are returned to the BLM districts in which they were collected to be used for range improvements. In fiscal year 1990, range improvement funds totalled \$9.4 million nationwide. FLPMA directs that the condition of public rangeland be improved through the use of these range betterment funds. Under the Public Rangeland Improvement Act (43 U.S.C. 1901), range improvement includes providing habitat for wildlife. At the BLM districts we reviewed, wildlife projects received little of the money. For example, in one district, about 6.5 percent of the district's \$2.6 million in range betterment funds was allocated to wildlife-related projects in fiscal years 1984 through 1989. At another location, staff told us that no range betterment funds are spent to benefit wildlife. At these locations, the bulk of the money went for such projects as livestock water systems, fences, prescribed burning and seeding of rangeland, and cattle guards.

In the Forest Service, the distribution pattern of these funds is less clear. Nationwide, no figures are available for how much of the \$4 million in total range betterment funds was spent on wildlife in fiscal year 1989. Officials we interviewed gave differing views as to the expenditure of these funds for wildlife. One Forest Service official stated that range betterment funds are not spent specifically for wildlife benefits, although wildlife may benefit from such range improvement projects as water developments. Another stated that these funds are regularly used to improve riparian habitat, which can benefit wildlife.

In fiscal year 1989, the last year for which figures were available, the Forest Service also received about \$237 million in Knutson-Vandenberg Act funds from timber sale purchasers. Of this amount, approximately \$17 million (7 percent) was provided for wildlife and fisheries habitat management. According to a Department of Agriculture Inspector General's report in 1990,¹ the lack of specific guidance concerning appropriate Knutson-Vandenberg fund expenditures created wide variability among Forest Service administrative units in the type of projects funded.

When funds have been used for wildlife enhancement, they have produced favorable results. For example, one forest we reviewed has added about \$100,000 annually to its wildlife program since fiscal year 1987 with Knutson-Vandenberg funds. Protection and enhancement projects

¹Audit of Forest Service-Analysis of Knutson-Vandenberg Act Fund Balances, Mar. 30, 1990.

included seeding, deer habitat improvements, dam and island construction for waterfowl, and placement of nesting boxes. The projects have been so successful, in the view of the forest biologist, that he plans to continue using these funds for these purposes and is considering a plan amendment to increase habitat improvement goals over the historical levels used in developing the forest plan.

Impact of Shortfalls in Specific Locations

The agencies' decisions to devote a small share of available budgeting and staffing resources to wildlife have prevented the development of more proactive wildlife enhancement programs. At a number of locations we visited, we identified adverse impacts on the ability of wildlife program managers to perform their work. Several examples follow:

- At one BLM district where staff and funding shortages were cited as the reasons for not implementing the planned program, staffing for wildlife objectives between 1980 and 1988 decreased to about one-half of the number of positions needed for an effective wildlife program, according to the district's manager. In 1987, the district manager told the state director in a memorandum that the number of wildlife biologist positions and the existing level of program funding for wildlife (2 cents per acre) were not consistent with the complexities of wildlife management. The district manager said that although he had made known the critical need for substantial increases in wildlife funding, the situation has not improved and, on average, each full-time wildlife-related position is responsible for work on about 1.5 million acres. For example, because of past cuts in staff and funds, a desert tortoise-monitoring program did not exist until recently. Staff stated that this should have been done years ago because BLM and others knew that the species was in "dire straits."
- At one timber-producing BLM district, managers and staff pointed out that without more staff and funds, essentially no planned wildlife efforts can be accomplished, and the condition and trend of virtually all of the district's wildlife species remain unknown. Staff stated that some meaningful habitat improvements could be achieved if funding were available.
- At one national forest where officials cited staff and funding shortages as the main reasons for limited implementation of planned wildlife efforts, two of the forest's four wildlife biologist positions were eliminated during the past 7 years. Officials said that the remaining biologists' large workload has reduced the staff's ability to properly implement and monitor the wildlife objectives in the forest plan, especially since they are frequently diverted from wildlife enhancement

activities to efforts related to minimizing the damage to wildlife from economic activities such as (1) reviews of timber, grazing, recreation, riparian, and fire management plans; (2) public meetings on forest road system plans; and (3) preparation of environmental assessments and reviews of reclamation and operating plans for mines.

We also noted an additional effect of funding and staffing shortages: they are preventing the agencies from taking advantage of other available funding sources. For example, BLM and the Forest Service use the Challenge Cost Share Program² to supplement annual appropriations and funds received from consumptive use programs. In fiscal year 1989, BLM used \$1.5 million appropriated for the Challenge Cost Share Program to match an estimated \$2 million in contributions. In the same year, the Forest Service used \$6.4 million of appropriated Challenge Cost Share funds to match an estimated \$9.5 million in contributions. However, neither agency has been able to realize the full potential benefits of the program because of funding and staffing shortages. For example, according to BLM officials, in fiscal year 1989 the agency missed the opportunity to receive an additional \$2.3 million in offered funds, materials, and labor because it did not have an additional \$1.7 million in Challenge Cost Share funds.

At the locations we visited, we noted the effects of the agencies' inability to take advantage of cost-sharing opportunities.

- At one BLM district, where seven wildlife-related projects were not done in fiscal year 1988, BLM was able to match only about 50 percent of what state and private groups offered to share in project costs. Foregone projects included a bighorn sheep water development maintenance project and a mule deer water development project. In fiscal year 1989, the situation worsened, and BLM was able to match only about 25 percent of the offered contributions.
- In another BLM district, staff estimated that BLM statewide funds amounted to less than 25 percent of proposed Challenge Cost Share projects. In fiscal year 1988, BLM needed \$600,000 to match proposed contributions but had only \$110,000, leaving 120 proposed cost-sharing projects unfunded. For example, BLM could not match the cooperator's

²The Challenge Cost Share program receives donations from state and local governments and from private organizations. Under the program, these outside sources put up about 50 percent of project costs, in the form of labor, materials, or dollars, and the federal agency matches the contributions. The results of this cooperation include many successful wildlife efforts, such as big-game water development projects, bald eagle nest watch programs, instream habitat improvements for fish, and seeding cover plants for upland game birds.

contributions for such projects as (1) inventorying wildlife in the district, (2) rehabilitating crucial wildlife habitat damaged in a wildfire, and (3) improving fish habitat.

- At one national forest, officials said that they did not have the staff needed to identify and plan a number of potential cost-sharing opportunities with the state, a mountain elk volunteer group, a riparian association, and others. The forest's wildlife biologist said the effort could be greatly expanded with more staff.

Wildlife Needs Often Not Reflected in Land Use Plans

The agencies' pattern of providing limited consideration to the needs of wildlife in their public lands management activities are also reflected in the land use planning process. While wildlife needs are uniformly considered during land use planning, when conflicts occur between the needs of wildlife and those of other uses, the agencies frequently favored consumptive interests. Documentation revealed that the agencies were sometimes aware that adopted actions would likely affect wildlife adversely.

In all 15 of the comprehensive land use plans we reviewed, we found evidence that the agencies had taken wildlife into consideration during the planning process. These considerations included: (1) incorporating wildlife-related objectives in broadly stated land use plans, (2) establishing site-specific wildlife habitat management plans, and (3) including wildlife considerations raised by other agencies and the public into the agencies' land use plans. For example:

- At one BLM district, a 1983 land use plan for a resource area called for BLM to provide wildlife benefits by providing safe access to year-round water at 150 livestock watering areas. BLM's stated rationale for including this objective was that small and upland game species need ready access to water and many die attempting to get water from unsafe sources. The plan noted that increasing water in dry areas will increase the population of these game species.
- At one national forest, the forest plan identified riparian values and conditions to be achieved over a decade. It stated that in some cases, this would result in upgrading existing riparian resources and related wildlife habitat. The plan called for mitigating the effects of grazing on riparian areas through improved grazing management or, if funding were not available or cattle management prescriptions could not be developed, reducing authorized grazing in riparian areas.

Although the needs of wildlife were considered during the land use planning process in all the instances we examined, this consideration was often not reflected in the plans that were ultimately approved. Agency biologists told us that proposals they considered to be important to wildlife interests have frequently not been incorporated. Documentation we reviewed revealed that, in some cases, agency managers recognized that decisions favoring consumptive uses would have adverse effects on wildlife but decided to pursue those courses of action anyway. Several examples follow:

- As we reported in June 1989, in preparing a comprehensive land use plan for the California Desert, BLM designated two large areas in the California Desert as “free-play” areas for off-highway vehicles despite its recognition that the areas provided important habitat for the desert tortoise and other species such as the golden eagle and the prairie falcon. The final environmental impact statement for the plan concluded that motorized vehicle activity would have serious and long-lasting impacts on these species and their habitats. It said that in heavily used areas, declines in the numbers of desert tortoises could exceed 50 percent of the population per year, resulting in the tortoise population’s dropping below the threshold of recovery within 5 years. Despite such concerns, BLM designated the areas for motorized free-play use because it believed the areas were suited for this purpose and had been heavily used in the past.
- In another BLM district, the environmental impact statement for the timber management plan predicted that the habitat for at least 50 species of tree-cavity-using wildlife, such as the pileated woodpecker and the northern spotted owl (at the time listed as a threatened species by the state), would be only 17 percent of its potential the first 10 years after the plan’s adoption and only 15 percent thereafter because of the timber-harvesting methods selected. The statement noted that anything below 40 percent of potential may not be sufficient for species’ viability. Notwithstanding these predictions, agency policy to preserve state-listed species, and the recommendations of agency and state biologists, the planning alternative eventually adopted incorporated the species-threatening timber-harvest levels and reduced the recommended level of mitigation.
- At a national forest, forest and state officials told us that one of the major potentials for conflict between wildlife and other uses of the forest comes from timber harvesting and the construction of related access roads. For example, we reviewed six environmental assessments for timber sales and related road construction in which the selected

alternative adversely affected wildlife habitat. During the plan development process for these sales, input from agency wildlife biologists showed that the planned harvest levels and road construction would (1) reduce elk habitat effectiveness on four of the sales by up to 25 percent; (2) adversely affect elk travel corridors on two sales and concentration areas on another; and (3) eliminate potential nesting areas on one sale for the Northern goshawk, a management indicator species for the forest. While these concerns were recognized, the forest plan, including these sale areas, was nonetheless adopted and the goal of biologists became one of mitigating the damage from timber harvests rather than enhancing wildlife habitat.

Most Planned Wildlife Habitat Enhancement Actions Have Not Been Implemented

The limited consideration of wildlife interests is also reflected in the agencies' performance in implementing wildlife enhancement tasks that are eventually incorporated in approved plans. Although BLM and the Forest Service had completed some wildlife-related actions at the locations we reviewed and had achieved favorable results when they did so, most wildlife-related actions called for in the management plans we reviewed had been implemented only partially or not at all. Of major importance, monitoring programs required in the agencies' plans were usually not performed. Without monitoring, the agencies do not have the information needed to determine the effect their actions are having on wildlife and make appropriate adjustments to their plans.

Completing Planned Actions for Wildlife Has Produced Favorable Results at Some Locations

Some of the actions for wildlife in the plans we examined have been completed. These accomplishments were often marked by cooperative efforts with such parties as state wildlife agencies or volunteer groups. Some examples of efforts which have been successful or appear to have good potential for meeting stated wildlife objectives are described below.

- At one BLM location, a wildlife management plan was approved in 1976 as a cooperative effort between the BLM state office and the state fish and game department. The plan's purpose was to improve wildlife habitat, especially for ring-necked pheasants and other game birds, on about 50,000 acres of public lands adjacent to agricultural areas. Farming practices had reduced wildlife habitat and bird populations on both agricultural areas and public lands. The plan allowed some private farming on public lands while guaranteeing public access for hunting and recreational activities. BLM's planned improvements for these areas included (1) seeding of dry land grasses and shrubs to improve wildlife

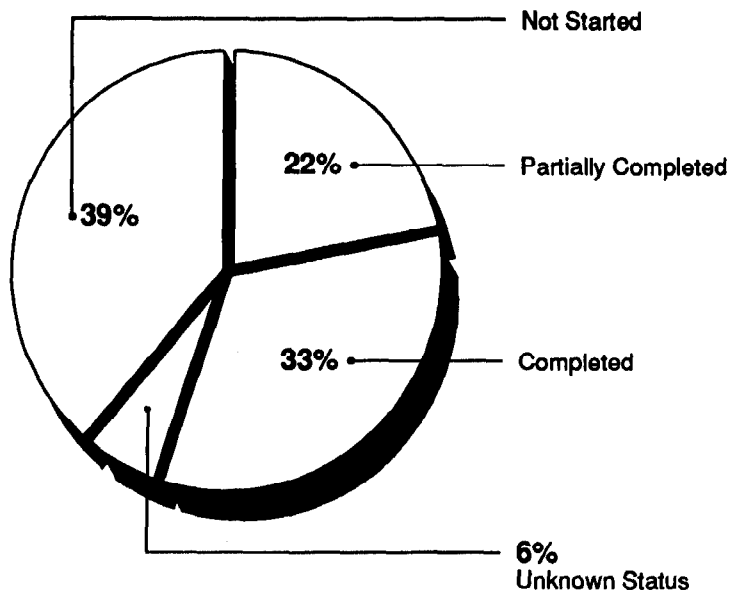
cover, (2) installing water tanks to provide permanent wildlife water sources, and (3) erecting fences to protect wildlife habitat from unauthorized agricultural use and livestock grazing. BLM's comparison of habitat conditions before and after plan implementation showed success in meeting wildlife objectives. For example, in 1977, 66 percent of the habitat areas were in poor condition and 34 percent in good condition. By comparison, in 1988, 28 percent were in poor condition and 72 percent were in good condition. Bird populations had increased in these areas. BLM officials attribute some of the plan's success to the Forest Service's Intermountain Forest and Range Experiment Station, which helped develop site-specific vegetation, planting techniques, and equipment for implementing the plan's wildlife-related range improvements. For example, the Forest Service helped develop dry land plant materials for rehabilitating rangeland areas previously devastated by fire and uncontrolled livestock grazing.

- At a national forest, we found that an effective implementation of the 1986 forest plan played an important role in aiding recovery of the bald eagle, a federally listed threatened species. The forest plan called for increasing the number of breeding pairs of eagles to 150 by the year 2020 and prescribed such actions as better protection of nest sites and annual surveys of bald eagle pairs capable of breeding, identification of pairs which successfully breed, and determination of the average number of chicks. A subsequent monitoring report stated that the number of breeding pairs of eagles was beginning to increase, and it attributed the increase to the discontinued use of certain harmful pesticides, less shooting of bald eagles by a better informed public, and better protection of nest sites. In 1989, the Forest Service reported a total of 144 breeding pairs, an increase of 9 from the previous year. A Forest Service report on bald eagle nesting success in 11 national forests found that this forest had the most significant increase in occupied bald eagle nests.
- At another national forest, an objective in the proposed forest plan had been implemented to introduce the endangered peregrine falcon into the area. The successful effort to introduce 15 captive-bred peregrine falcons involved the forest staff's coordinating and cooperating with many participants, including a utility company, the state, a conservation district, and a private research group. A March 1988 survey by an independent consultant located a pair of adult peregrines nesting in a nearby site and sighted two more peregrines at other locations in the area. The survey report concluded that the forest's implementation of its planned wildlife program was responsible for the success.

Successes Overshadowed by More Limited Progress at Most Locations Reviewed

While some successes have occurred, for the most part we found that planned wildlife objectives have not been accomplished at the locations we visited. The 51 plans we reviewed at BLM and the Forest Service called for a total of 1,130 wildlife-related actions to have been completed or started by the time we performed our review.³ Figure 2.1 shows the disposition of these actions as determined by our discussions with biologists and land managers and our review of available documentation. As the figure shows, 374 of the actions (33 percent) were completed. The remaining 756 actions were either only partially completed (249, or 22 percent), not started at all (436, or 39 percent), or undeterminable due to the lack of documentation or monitoring (71, or 6 percent). BLM and Forest Service staff told us that actions not completed frequently included many of the most critically important tasks, such as monitoring to determine whether wildlife-related plans were achieving their basic objectives.

Figure 2.1: Disposition of Wildlife-Related Actions in 51 BLM and Forest Service Plans Reviewed



Several examples of wildlife-related actions that have been implemented only partially or not at all are as follows:

³The actions we identified had a variety of labels, including goals, objectives, and action items. Use of these terms was not consistent from location to location or plan to plan. To provide some quantifiable indication of the progress made to date, we placed all the items we identified under the term "action" if they met the criterion of calling for a specific and measurable effort on the part of agency staff.

- At one BLM district, a 1983 land use plan contained 90 specific management actions to benefit wildlife. The plan called for revising livestock-grazing management practices and taking other actions designed to ensure protection and enhancement of critical riparian habitat areas which provide shade, cover, water, nesting sites, and habitat for numerous animal species. As of January 1990, about a decade after plan completion, 63 of the 90 planned actions had still not been accomplished.

According to BLM staff, most of the relatively important actions required by the plan had not been accomplished, including: (1) allocating additional forage to big-game species; (2) relieving competition between big-horn sheep and livestock for space, water, and browse forage; and (3) improving and maintaining special habitat features, such as waters and cliffs. The district wildlife biologist stated that on the basis of his observations, the riparian and wildlife resources are probably still declining as a result of inadequate plan implementation.

- At another BLM district, a wildlife habitat management plan was put in place in 1987. Federal, state, and private lands covered in the area support a variety of wildlife such as desert iguana, Gambel's quail, and burro mule deer. The area also contains federally listed or candidate species such as the desert tortoise and the Colorado Desert fringe-toed lizard. The plan called for 17 specific wildlife enhancement and protection actions to be completed or started at the time of our review. Such actions include limiting vehicle access in portions of the habitat, monitoring impacts of uses, and establishing or maintaining water and vegetation for wildlife.

We found that 13 of the 17 planned action items had not been started, 3 were partially completed, and only 1 was fully completed. At the time of our review, the BLM biologist responsible for implementing the plan stated that because the actions had not been completed, BLM has not made good on most of its wildlife-related promises in the area and, in her view, wildlife resources had probably been adversely affected.

- At a national forest, plans developed for wintering areas used by deer called for rehabilitating forage and cover conditions. We reviewed a 1983 deer habitat management plan designed to improve habitat in one of the largest wintering areas in the forest, encompassing about 7,000 acres of Forest Service, state, county, and private lands. The plan's objectives were to: (1) provide quality food and cover during periods when severe weather results in high concentrations of deer and (2)

ensure survival of enough deer to maintain viable populations. The plan called for improving wildlife habitat on an average of 70 acres a year through specified timber management and forage enhancement practices. As of October 1988 (the end of the most recently completed planning period), however, only 17 percent of the plan's action items had been implemented. As a result, the potential for improving deer habitat has not been realized. Forest-monitoring reports show that although the deer population trend is up in recent years, it is well below the forest plan goal.

- At another national forest, the 1987 plan included specific wildlife habitat improvement actions to be implemented in fiscal years 1987 through 1989. On the basis of our discussions with forest officials and a review of available documentation, we determined that of the plan's 37 proposed projects, 30 were not started. Some of the planned action items scheduled for completion by 1989 but not implemented at the time of our review included (1) water development projects at various locations to provide water for wildlife; (2) experimental forage planting for elk winter feeding areas; (3) wet meadow habitat enhancements for elk, small birds, and mammals; (4) riparian improvement on a livestock grazing allotment; and (5) projects to improve forage for elk, deer, and sage grouse.

Systematic Monitoring of Results Often Among Action Items Not Implemented

An action commonly not done in the plans we examined was monitoring of plan implementation. Monitoring is needed to tell managers how well plans are being carried out, what effect the planned actions are having on wildlife, and whether changes to the plans should be made. Monitoring to determine the effect of BLM and Forest Service land use plans on the resources is required in regulations implementing FLPMA and the National Forest Management Act. Without this feedback, managers can only estimate the effects of their decisions on wildlife and other resources because hard data have not been developed.

We found that both BLM and the Forest Service had collected little monitoring data. Nearly all of the land managers we interviewed said that monitoring is a critical action in any wildlife plan, but that such work was rarely, if ever, performed. They said that monitoring is an expensive and time-consuming, but nonetheless critical, task that is consistently assigned a low priority and is often delayed indefinitely. Examples of agencies' lack of monitoring include the following:

- At one BLM district, some staff and a manager stated that BLM has no systematic way to determine which species it should monitor to determine the effects of its land use decisions. While monitoring information would be a meaningful management tool, such data are simply not available because of the priority placed on other work. One manager and staff stated that in the absence of monitoring data BLM must, by default, rely on public scrutiny to determine possible downward trends in wildlife habitat and populations. Without monitoring data, they said, potential effects of land use decisions are often estimated without supporting data. They said that wildlife inventory work and monitoring have very low priority in BLM because benefits are long-term rather than immediate and there is no large wildlife constituency demanding it.
- At a BLM resource area, a 1987 wildlife plan discussed the need for monitoring data on several species of special interest, such as the burro mule deer, and stated that neglected monitoring work would be performed in critical habitat areas. The BLM biologist responsible for implementing the plan stated that such work had not been done and, as a result, BLM has no documentation on what she believes, on the basis of her own observations, may be the decline of certain habitat and species.
- At a national forest, the wildlife biologist said that the forest does not have habitat-monitoring data for the eight management indicator species specified in the forest plan. He said the monitoring effort is concentrated on riparian habitat rather than on the management indicator species because it is more sensitive and has a high priority in the region. The forest wildlife biologist said that predicting species population levels from habitat availability is risky because not all species/habitat relationships have been defined. For example, in the case of the sage grouse, more needs to be known about its use of habitat and about the impacts of fire, fencing, water developments, and grazing.

Limited Available Data About the Condition of Wildlife and Their Habitats Suggest Cause for Concern

The limitations in available wildlife monitoring and inventory data preclude any generalized conclusion on the health of wildlife or wildlife habitats on public lands. The same data limitations also prevent a judgment on the overall effects of the federal agencies' limited consideration of wildlife needs in their public lands management activities. However, on the basis of the limited data available at the locations we visited and the state and federal agency wildlife reports we reviewed, there is reason for concern. While some species are faring well, many others are not, and the ability of some habitats to support species dependent on them is being increasingly threatened. At each of the BLM locations we visited, some wildlife species were not faring well. For example:

- As we reported in June 1989, populations of the desert tortoise at one BLM location have declined by as much as 70 percent between 1982 and 1988. The declines were attributed by biologists to activities which directly kill or injure the tortoises or which adversely affect their habitat. Such activities include livestock grazing; off-highway vehicle use; urban and agricultural development; construction of roads, power-lines, and pipelines; disease; collection for pets; vandalism; shooting; and predation of young tortoises by ravens.
- At another BLM location, staff concluded, on the basis of preliminary monitoring evidence and field observations, that several species are likely in serious decline. These species include the Mexican vole (a small rodent), Sonoran pronghorn antelope, American pronghorn antelope, and riparian-dependent species such as the yellow-billed cuckoo and the black hawk. Livestock grazing at this location had resulted in the loss of range habitat and the degradation of riparian habitat used by these species. Grazing-related fencing and water development projects have negatively affected animal populations by restricting access to water and movement through crucial habitat. In some cases, animals have drowned in storage tanks or water troughs.
- At another BLM location, the northern spotted owl and cavity-dwelling species are considered by agency biologists to be threatened by loss of habitat due to commercial timber harvests. A December 1989 analysis of monitoring results by an agency biologist revealed that at present harvest levels, suitable mature and old-growth habitat outside of currently protected nest areas will be eliminated in about 5 years. An ongoing study at this location to determine whether second-growth timber stands are suitable for northern spotted owl habitat has not produced conclusive results. In its June 1990 decision to list the northern spotted owl as threatened, Interior's Fish and Wildlife Service cited the loss of old-growth habitat to commercial logging as the primary cause of the owl's plight.

Reports issued by federal agencies, state wildlife departments, and private conservation organizations⁴ point to some positive developments but confirm the need for concern over the overall condition of wildlife and wildlife habitats on the public lands. A May 1990 Forest Service report projects stable or increasing big-game populations nationwide but

⁴Examples of such reports include: Reducing Risk—Setting Priorities and Strategies for Environmental Protection (EPA—1990); Sliding Toward Extinction: the State of California's Natural Heritage (prepared by the California Nature Conservancy at the request of the state Senate Committee on Natural Resources and Wildlife, 1987); and the Oregon Nongame Wildlife Management Plan (Oregon Department of Fish and Wildlife, 1986).

declining populations of migratory game birds. It also notes that a significant portion of public rangeland habitat remains in unsatisfactory condition and points out that the status of threatened and endangered species on Forest Service land is uncertain.

Recent evaluations of the wildlife programs in both BLM and the Forest Service noted that both agencies lack the necessary funds and staff to implement planned wildlife actions. Moreover, fish and wildlife programs in both agencies were characterized as lacking a high priority relative to other programs or operating as a "support function" rather than a proactive program. For example, on average there is one BLM wildlife biologist per million acres of public land. In one state, there is one BLM wildlife biologist per 3 million acres, an area equal in size to the state of Connecticut. The evaluation of the Forest Service wildlife program noted that because of staffing shortages forest plans contain inadequate program goals and objectives as well as underestimates of fish and wildlife resource potentials.

Additionally, the June 1990 Fish and Wildlife decision to list the northern spotted owl as threatened noted that virtually the entire population of northern spotted owls resides on land managed by the federal government, primarily by the Forest Service and BLM. According to the decision, current management by both the Forest Service and BLM is inadequate to guarantee the owl's existence, in part, because of the emphasis that both agencies place on managing land for timber production.

While state wildlife officials from the states we visited reported that populations of game animals are stable or increasing slightly (from record lows at the turn of the century), several expressed concerns about the future of such species as deer, elk, bighorn sheep, antelope, and the carnivores which prey upon them. These concerns centered on the degradation of habitat associated with increased human population, grazing, mining, and logging activities. These developmental activities can reduce or eliminate habitats such as mature and old-growth forests, riparian areas and wetlands both in forests and rangelands, hardwood forests, and large undisturbed areas. Livestock grazing can reduce or eliminate forage needed by wildlife and introduce diseases which reduce wildlife populations.

State nongame wildlife officials also reported that species such as rodents and starlings, which adapt well to human presence and disturbed land areas, are doing well while species dependent upon specialized habitats, such as the pileated woodpecker and the desert tortoise, are not. Census data for nongame animals are very limited, except for species that are listed as threatened, endangered, or sensitive. However, state officials note that the loss of certain habitats such as old-growth forests or desert ecosystems almost certainly indicates the loss of species dependent on them. Because data are limited, they believe that some species may already be locally extinct even though the losses have not been documented, a view shared by agency biologists we spoke to.

The existence of wildlife species can be jeopardized for a variety of reasons including impacts from residential, industrial, and commercial development; introduced predators and competitors; commodity land uses regardless of land ownership; off-road vehicle and other recreational use; conversion of land to agricultural uses; and natural events such as drought or flooding. Among the six states we visited in our review of BLM and Forest Service locations, between 1 and 11 percent of all vertebrate species are listed either by the states or the federal government as being threatened or endangered species. These figures do not include federal candidate species or state species of special concern, which may qualify for listing but which have not been officially designated. In California, when such nondesignated species are included, one-third of the state's mammals and nearly one-fourth of the state's birds may be threatened with extinction. Additionally, in 1990, California reported that almost 65 percent of its listed animal populations continue to decline despite large state expenditures for nongame and endangered species. Since public lands are an important source of wildlife habitat, particularly throughout the West, loss or degradation of habitat on these lands can only increase the threats facing wildlife.

Deference to Competing Uses Inhibits Federal Efforts in Support of Wildlife

43 USC
1181

No single reason fully explains BLM's and the Forest Service's limited wildlife protection and enhancement efforts. We believe, however, that the agencies' deference to competing uses of the public land resources such as mining, timber production, or livestock grazing has been a key factor. In some instances, the deference to these consumptive and other interests results from provisions in federal laws, but in most instances, it occurs because agency priorities, budgets, and management practices have been oriented in these directions. There are some recent indications at both agencies of an awareness of the need to reexamine this emphasis on commercial programs and possibly provide more attention to wildlife as they balance the many public land uses. If the Congress believes a more thorough adjustment of priorities is in order, we believe that it could best express those desires through legislation.

Statutory Mandates Favor Competing Uses

Although FLPMA and the Multiple-Use Sustained-Yield Act call for balance between possible uses of the land, other laws call for consumptive uses to have precedence. Two federal laws in particular are cited by agency officials as mandating them to give preference to consumptive uses under certain circumstances during land use decisionmaking. They are the Mining Law of 1872 (30 U.S.C. 22 et seq.), which gives preference to mining uses, and the Oregon and California Lands Act (43 U.S.C. 1181a et seq.), which gives preference to timber production on those lands to which it pertains.

The Mining Law of 1872

The Mining Law of 1872 was passed to encourage development of mineral resources, as well as settlement, in the West. It allows U.S. businesses and private citizens to prospect for hardrock minerals on public lands not withdrawn from mining without obtaining a license or permit and without paying any fees so long as they do not cause significant disturbance to the land's surface. Once minerals are discovered, for a \$10 fee, operators can file a claim which gives them the right to use the land for mining-related activities as well as the right to sell the extracted minerals without further payment to the federal government. The law also allows public land covered by valid claims to pass from federal into private ownership for \$2.50 or \$5 per acre, depending upon the type of claim. In order to obtain title to the land and minerals, claimholders must provide proof that a valuable mineral deposit has been found and that at least \$500 has been spent to develop the claim. Once land passes into private ownership, federal agencies lose control over management of such land. Moreover, their ability to effectively manage adjacent land for multiple uses may be limited. For example,

private land owners have the right to construct access roads across public land to their property if such roads do not exist.

According to agency land managers, the provisions of the Mining Law of 1872 limit the ability of federal officials to protect wildlife or other resource interests on lands subject to mining claims. Both BLM and the Forest Service have adopted land management regulations to prevent undue degradation of land surfaces from authorized mining activities. Despite such protective regulations, neither agency has the staff or resources to adequately inspect the over 1.2 million active claims on approximately 460 million acres. Unauthorized activities that could negatively affect wildlife but which have been found recently on valid claims include heavily damaged riparian habitat, stored toxic chemicals, fences, and unused cyanide ponds.

The agency officials told us that while the agencies can reject the specific plans for mining operations, the activity itself cannot be rejected on lands open to mining. Consequently, operators can submit additional plans until one is approved or begin the patenting process, which could remove the land from federal ownership. The basic land use planning process in both agencies establishes general standards and guidelines for possible mineral development in the planning area. However, since mineral deposits are often unknown until discovered, the specific and cumulative effects of individual claims cannot be addressed through this process. Relatedly, once a plan of operations is submitted, agency regulations implementing the mining law limit agency efforts to protect against undue surface disturbances to those which do not unduly hinder mining operations.

While we noted efforts by both agencies to control the adverse environmental impacts of public land mining activities, at one BLM district we found instances in which mining activities adversely affected wildlife habitat management. For example, at this BLM location, a biologist stated that because BLM interprets the Mining Law of 1872 as prohibiting the agencies from imposing practices that substantially increase operating costs of proposed projects, it is probably the single biggest obstacle he faces in preserving wildlife habitat in the area. The biologist said that when he reviews plans for proposed mining operations, his recommendations for wildlife protection that involve substantial changes to mining plans, such as suggestions to require more costly mining or reclamation procedures, are routinely rejected.

The Oregon and California Lands Act

In 1937, the Congress passed an act, commonly called the Oregon and California Lands Act, which dealt with certain lands returned to federal ownership after the companies that received the lands violated requirements of the acts initially granting the lands to them. This land, over 2 million acres in southern and western Oregon, is considered by some to be among the world's most valuable and productive forest lands. The Oregon and California Lands Act directed that the land be managed for permanent forest production according to the principle of sustained yield. FLPMA granted dominance to the Oregon and California Lands Act whenever inconsistencies arose between the two laws regarding management of the timber resource and distribution of timber revenues.

BLM manages Oregon and California Lands Act lands under the act and the agency's Forest Resources Policy issued in 1983. The policy states that production of a high level and sustained yield of wood products is the primary management objective. Implementing guidance accompanying the policy stated that any required management to achieve nontimber forest values (such as wildlife) would first be accomplished, to the extent possible, with land unsuitable for timber production. Mitigation steps for wildlife and other nontimber resource values are to be taken on suitable timber harvest acreage only if land unsuitable for timber production is insufficient. Withdrawal of timber-producing land to provide for nontimber values can only be used as a last resort. A 1986 Interior Solicitor's opinion supported the dominance of timber production by indicating that the Oregon and California Lands Act precludes the implementation of any program, including protection of state-listed threatened or endangered wildlife, if it is in conflict with timber production. In 1990, in *Headwaters, Inc. v. Bureau of Land Management*, Medford District, 914 F.2d 1174, the U.S. Court of Appeals for the Ninth Circuit agreed that the language of the act makes timber the dominant land use.

As a result of BLM's implementation of the act's dominant use provision for timber production, wildlife which use certain types of forest habitats are adversely affected. As currently practiced, timber management on the Oregon and California Lands Act lands reduces or eliminates habitats such as mature and old-growth stands, hardwood stands, dead and dying standing trees, and dead trees on the ground. The variety of habitats found in an unmanaged forest is replaced by a simplified habitat consisting of cone-bearing tree stands with little or no difference in tree age. Because many species depend upon the presence of complex habitats, the simplification of habitats reduces the diversity of resident species.

Down logs and dead or partly dead standing trees often contain merchantable timber. Past efforts by BLM staff to retain enough of these logs and trees to provide wildlife habitats have, in some instances, been constrained by the dominant use provisions of the Oregon and California Lands Act, which encourage salvaging such timber. Down logs provide habitats for various insects and small animals such as mice, chipmunks, and tree frogs. These species provide food for others such as woodpeckers, owls, and martens, which make or use cavities in dead or dying standing trees. The northern spotted owl, an old-growth-dependent cavity-nesting species, was federally listed as threatened in June 1990 owing to the loss or adverse modification of habitat to timber harvesting throughout its range. According to the Fish and Wildlife Service listing decision, BLM and the Forest Service, which together manage most of the remaining spotted owl habitat, place such an emphasis on timber production that their current management for the species is inadequate to ensure its long-term survival. An April 1990 Interagency Scientific Committee study found that current management for spotted owl habitat on BLM land could not support a viable population. Both BLM and the Forest Service manage land containing suitable owl habitat. However, BLM manages its land under the timber-dominant Oregon and California Lands Act and harvests its store of timber that is suitable owl habitat at a rate three times greater than the harvest rate used by the Forest Service on its land managed under the multiple use principle.

Elk are also adversely affected by this emphasis on timber production. Roads, which are required for access to harvest sites, expose elk to harassment and killing by hunters, poachers, and others. While elk can benefit from the forage produced on logged areas, the presence of roads open to vehicles reduces the areas' effectiveness as elk habitat. Elk also suffer from the loss of old-growth stands that provide protection from weather extremes.

One location we visited managed under the Oregon and California Lands Act Lands requirements illustrates the extent to which timber production dominates over wildlife interests. The land use plan for this location fully recognized its significant long-term adverse impacts on some animal populations, particularly those species dependent on old-growth habitat, but was nonetheless adopted. More specifically, the plan predicted that those species which use the cavities in standing dead or dying trees would be provided habitats below the level believed necessary to maintain population viability. At this location, 11 species of birds and mammals, including the northern spotted owl, are known or

believed to be dependent upon old-growth forest habitat. Although comprehensive inventory and monitoring data on other resident species are lacking, agency wildlife biologists believe that some species of mammals, such as fishers and martens, are already locally extinct.

Discretionary Land Use Decisions Reflect Deference to Nonwildlife Interests

Legal mandates that favor one use over another apply in only a limited number of locations managed by BLM and the Forest Service. In far more situations, the agencies are not constricted in their ability to manage lands for multiple uses and sustained yields. Here too, however, we found that in instances where consumptive use and wildlife interests competed, the agencies frequently adopted approaches that favored nonwildlife, consumptive use interests. Mitigation measures for protecting wildlife were in some cases nonexistent and in other cases insufficient for effective protection. As we have discussed in other reports and testimonies¹ concerning BLM public land use management in particular, such deference to consumptive interests is not rare. These products are listed at the end of this report.

The examples below illustrate that the agencies favor nonwildlife interests when resolving conflicts between the needs of wildlife and consumptive economic development.

- One land use plan called for BLM to reduce livestock forage consumption because 73 percent of the area was in fair to poor condition and unable to support various wildlife populations. The plan still called for giving livestock most of the allocated forage—96 percent as compared with 1 percent for wildlife. Since the plan's adoption in 1983, however, essentially no livestock forage reductions have occurred.

At this same location, BLM has often been unwilling to work with the state wildlife department to increase wildlife populations by reducing livestock usage, according to state wildlife department officials. In some cases, BLM and state officials said, BLM's efforts to institute improved livestock management in critical riparian areas were futile because livestock operators resisted changes to their operations and because managers at BLM's state office level did not support staff recommendations for better riparian protection. BLM state office personnel responded to

¹For example, *Issues Concerning Management of the Public Lands by the Bureau of Land Management and the U.S. Forest Service* (GAO/T-RCED-90-24); *California Desert: Planned Wildlife Protection and Enhancement Objectives Not Achieved* (GAO/RCED-89-171); and *Public Rangelands: Some Riparian Areas Restored but Widespread Improvement Will Be Slow* (GAO/RCED-88-105).

this view by stating that BLM headquarters has not supported such recommendations when they involve politically sensitive issues or conflict with the desires of prominent ranchers.

Officials at one BLM district said staff are not allowed to manage resources for the overall benefit of the public lands. Solutions that favor wildlife, they said, are so infrequent and require so much time and effort to justify that managers and staff become reluctant to suggest them.

- At another BLM district, we found that timber production goals drove all land management decisions, frequently to the detriment of wildlife. While this district is required under the Oregon and California Lands Act to give preference to timber harvesting, it extended this emphasis on timber harvesting by eliminating many wildlife-related actions that could nonetheless have been taken in conjunction with timber harvesting. For example, the district's overall land use plan adopted wildlife mitigation measures substantially inferior to those recommended by agency biologists. To meet the needs of wildlife that dwell in tree cavities, staff biologists recommended retention of three snags (standing dead or dying trees) and three green (live) trees per acre on all district lands subject to tree harvesting. The adopted plan called for the retention of 1 snag or green tree per acre on 20 percent of the lands designated for harvesting, with any snag or green tree retention being discretionary on the remaining 80 percent of the lands. Biologists stated that forestry staff displayed much ingenuity in achieving snag targets where snags were required but routinely did not pursue opportunities to retain snags where they were discretionary.

In this district, agency biologists and a state wildlife official stated that the greatest threat to wildlife is loss of habitat from timber harvests. However, although habitat mitigation measures could have been included in timber sale contracts as obligations of the purchasers, they were not. In some cases, district management directed that compliance with habitat mitigation goals not be included in contracts, but instead be made discretionary by purchasers or made the responsibility of the agency wildlife program. For example, the land use plan called for retaining 6 to 10 "understory"² trees per acre on timber harvest land for use by wildlife, including birds of prey; the implementation guidance for the plan called this a target, not a requirement.

²The trees under a more-or-less continuous cover of branches and foliage formed collectively by the upper portion of adjacent trees and other woody growth.

- In another BLM district, where we found that many planned wildlife actions had not been implemented, staff stated that wildlife do not receive equal footing with other uses of the land because the wildlife constituency has very little political clout, while the political power of consumptive uses such as livestock grazing is formidable. As one result, they said, some species such as the Sonoran pronghorn antelope and desert tortoise and their habitats are likely in serious decline. Other staff and managers at this location stated that livestock grazing is being recognized as an institutionalized right on the public lands and as a result, forage priority goes to livestock in most cases. In effect, they said that wildlife cannot compete with these vested consumptive use interests because they do not have an equally powerful economic and political constituency.

Indications of Change in Current Emphasis on Consumptive Use Interests to a More Balanced Multiple-Use/Sustained-Yield Approach

We found some indications that a change in the current emphasis on consumptive use interests may be occurring at both agencies. At the Forest Service, for example, forest supervisors from several western states recently wrote the Chief of the Forest Service in a letter that the agency was out of touch with the land stewardship values on which it was founded. The supervisors said that too much of the national forest budget went to timber sales and not enough to recreation, fish and wildlife enhancement, and soil and water protection. The supervisors protested agency and congressional budget priorities that allocated 35 percent of the agency's budget to timber sales over the past 20 years, while recreation, fish and wildlife enhancement, and water and soil protection received only 2 to 3 percent each. In response to their concerns, the Chief of the Forest Service said there was no question but that the Forest Service needs to round out its program to do more for water, and fish and wildlife programs. In August 1990, the Chief announced the New Perspectives effort, a strategic plan for the next 5 to 10 years that emphasizes the enhancement of wildlife resources, more environmentally acceptable commodity production, and improved scientific knowledge, among other goals.

Similar concerns have been voiced within BLM. In May 1989, BLM managers in western Oregon suggested lowering timber sale quotas in their forests to levels that they could sustain without compromising wildlife, recreation, scenic, and other values. These managers identified several environmental impacts resulting from the effort to meet timber sale quotas, including some increase in cumulative impacts on watersheds and wildlife habitat, and the logging of younger and younger trees. BLM could not reduce the timber harvest, however, because of a provision in

the 1990 Department of the Interior and Related Agencies Appropriations Act which mandated harvest goals near existing levels.

We found other indications at BLM that the agency may be rethinking its historic practice of routinely deferring to consumptive use interests. For example, the Director publicly stated that he has a personal commitment to "environmental sensitivity and balanced use of our public lands" and that he plans to manage BLM lands in a fashion that provides for improved wildlife habitat, recognizes the value of riparian areas, and offers more recreational opportunities. He also said that he is a realist and understands that the public wants more from the public lands than serving the needs of the livestock grazers and mineral developers.

In addition to public statements, BLM has taken some specific actions. For example:

- In December 1989, BLM reversed earlier positions in the California Desert and stated its intent to deny any future applications for certain off-road races. This decision acknowledged the races' cumulative impacts on desert resources, specifically on the desert tortoise, which was recently listed as an endangered species.
- Also in December 1989, in response to our report on riparian management, which pointed out that BLM staff did not believe top BLM managers would support them in making decisions in favor of restoring riparian areas, the BLM Director issued a memorandum promising full support for such efforts in the future. Subsequently, BLM has announced a national riparian-wetland initiative that summarizes management efforts, sets forth goals and strategies for BLM riparian-wetland areas, and estimates the additional funds and staff needed for implementation.
- BLM is developing coordinated state and national wildlife strategies through its Fish and Wildlife 2000 initiative. Through Fish and Wildlife 2000, BLM will provide a sharper focus for its fish and wildlife program and achieve consensus concerning where the program should be headed. The state and national plans describe the necessary funds and positions to accomplish the planned work and will serve as a building block for the budget process.
- BLM has national agreements with 12 private wildlife and conservation organizations to foster on-the-ground projects to improve wildlife and fish habitat. For example, in February 1990, BLM and Ducks Unlimited, a national organization to perpetuate populations of waterfowl, agreed on ways to increase waterfowl populations and enhance the 20 million acres of wetlands on public lands.

Policy statements, open discussion of the issues, and the actions cited seem to indicate a new awareness by the agencies. However, improving wildlife habitat will also require translating these steps into specific, consistent actions.

Conclusions

BLM and Forest Service managers face a difficult task in developing and implementing plans that satisfy the requirements of the diverse—and often competing—interests that are concerned with the use of public lands. Even though all interests and uses are generally represented in the planning process, the agency managers must ultimately choose a course of action that involves compromises in the use of the resources.

BLM and the Forest Service have considered wildlife needs in their land use plan development and have achieved some wildlife objectives. However, we believe that on balance, the agencies have given greater emphasis in terms of management direction and priorities to consumptive uses of the land than to wildlife interests. This emphasis is demonstrated by:

- The low level of funding and staffing levels provided for wildlife programs.
- Land use decisions that often favor timber harvesting, livestock grazing, mining, and off-highway vehicle use while adversely affecting wildlife habitats.
- The high percentage of planned wildlife actions that are not being implemented.

Accomplishing more wildlife protection and enhancement objectives on federal lands would require a change in the current emphasis on economic interests. An approach that includes a greater commitment by agency management to completing wildlife actions outlined in agency plans as well as increased funding and staffing for wildlife programs would be required. Some recent policy statements, discussions of the issues, and limited actions taken by the Forest Service and BLM indicate that a change in the emphasis on economic interests over wildlife may be starting. Whether this signals a genuine change in priorities will be determined over time.

Matters for Congressional Consideration

Existing legislation setting forth the multiple use and sustained yield principles to govern public lands management does not spell out the level of consideration to provide to wildlife. If the Congress believes wildlife is not receiving adequate consideration by the agencies as they balance public lands uses, we believe it may wish to

- spell out more explicit expectations in law such as requiring both agencies to maintain viable populations of species on their lands;
- specify that the agencies' appropriations should provide a greater share of funding for wildlife;
- provide specific guidance and funding to the agencies for gathering wildlife and habitat inventory and monitoring information to provide the baseline data and status and trend information needed to determine the status of wildlife on public lands and the effect of the agencies' management, and require the agencies to periodically report the results of the monitoring to the Congress; and
- revise the Oregon and California Lands Act to require multiple-use and sustained-yield management for various resources, including wildlife, on subject lands.

Resource Plans and Related Documents Reviewed by GAO to Determine Wildlife Considerations

Documents Reviewed at BLM Locations

Boise District

Bruneau-Kuna Final Grazing EIS (1982) and Bruneau-Kuna Land Use Decisions Summary and Rangeland Program Summary (1983)

Bruneau Planning Unit MFP (1983)

Cooperative Wildlife Management Program 1988 Progress Report

Draft Trueblood Wildlife Area HMP (1988)

Environmental Assessments for three pipelines

Evaluation of BLM Wildlife Program Interactions with Rangeland Management

Idaho Fish and Wildlife 2000 Draft

Indian Creek Reservoir Wildlife HMP (1980)

Kuna Planning Unit MFP (1983)

Memorandum of Understanding Between Idaho Department of Fish and Game and BLM

Owyhee Final Grazing EIS (1981) and Owyhee Resource Area MFP (1981)

Owyhee Rangeland Management Program Summary Report (1981)

Owyhee Rangeland Program Summary Progress Report (1986)

Rabbit Creek Pilot Riparian Management Plan (1988)

Snake River Birds of Prey Area Management Plan (1985)

Special Evaluation Report—Birds of Prey

Eugene District

BLM-Oregon Department of Fish and Wildlife (ODF&W) Agreement for Spotted Owl Management

Districtwide Wildlife Tree Monitoring Results Draft

**Appendix I
Resource Plans and Related Documents
Reviewed by GAO to Determine
Wildlife Considerations**

Eugene District Habitat Management Plan (1988)

Eugene District Monitoring Plan (1986)

Eugene District Monitoring Report (1988)

Eugene District Timber Management Plan EIS and Record of Decision (1983)

Implementation of Spotted Owl Agreement with ODF&W

Plans for 7 designated ACECS and nominations for 11 new ACECS

Siuslaw and Upper Willamette Planning Areas MFP (1983)

Spotted Owl Environmental Assessment (1987)

17 Timber Sale files distributed among the 3 resource areas for both 1988 and 1989

Timber Sale Plan Environmental Assessments for 1988 and 1989 for each of the 3 resource areas

Phoenix District

Babcock AMP (1983)

Bill Williams Riparian Management Area Plan Draft and Final

Black Canyon HMP (1986) and Amendment (1987)

Lower Gila North HMP (1983)

Lower Gila North MFP (1983) and Unit Resource Analysis (1981)

Lower Gila South RMP (1989 Goldwater Amendment)

Lower Gila South RMP, EIS, and Record of Decision (1988)

Natural Resources Management Plan for Luke Air Force Range (1986)

Pipeline AMP (1978)

**Appendix I
Resource Plans and Related Documents
Reviewed by GAO to Determine
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Proposed Phoenix RMP and FEIS (1988)

Sitgreaves-Redhill and Garcia AMP (1983)

Riverside District

Algodones Dunes HMP

Amargosa Canyon Natural Area ACEC Plan

Big Morongo Canyon ACEC Plan

Chuckwalla Bench ACEC Plan

Chuckwalla Mountains Native Ungulate HMP

Clark Mountain ACEC and Clark Range HMP

Coachella Valley Preserve System HMP

Colton Hills AMP

Corn Springs ACEC Plan

Darwin AMP

Desert Tortoise Research Natural Area ACEC Plan

Dumont Dunes Off-Highway Vehicle Area Management Plan

East Mojave National Scenic Area Management Plan

Grimshaw Lake Natural Area ACEC Plan

Hunter Mountain AMP

Jawbone-Butterbrecht ACEC Plan and Sierra-Mojave-Tehachapi Ecotone
HMP

Lacey-Cactus-McCloud AMP

Milpitas Wash Wildlife HMP

**Appendix I
Resource Plans and Related Documents
Reviewed by GAO to Determine
Wildlife Considerations**

New York Mountain ACEC Plan and New York/Castle Peak HMP

Orocopia Mountains HMP

Piute Creek ACEC Plan

Plans of Operation for nine mining operations

Rudnik Common AMP

Saline Valley ACEC Plan and Saline Valley Marsh HMP

San Sebastian Marsh ACEC Plan and San Felipe Creek HMP

Santa Rosa Mountains HMP

Shoshone Cave (Whip-Scorpion) HMP

Soda Springs ACEC Plan

Tunawee Common AMP

Walker Pass Common AMP

Yuha Desert HMP

**Documents Reviewed at
Forest Service Locations**

Chippewa National Forest

Bald Eagle and Osprey Populations 1988 Wildlife Monitoring Report

Bald Eagle/Osprey Nesting Success in the National Forests of the Eastern Region (1987)

Chippewa National Forest Land and Resource Management Plan (1986)

Eastern Timber Wolf Recovery Plan (1987)

Holland Lake Impoundment Management Plan

Kirtland's Warbler Recovery Plan

Monitoring and Evaluation Reports (1987 and 1988)

Monitoring Report for Management Indicator Species (1989)

Northern States Bald Eagle Recovery Plan (1983)

Wetlands Wildlife Management Plan

Willow River Deer Wintering Area Plan (1983)

Lewis and Clark National Forest

American Peregrine Falcon Recovery Plan (Rocky Mountain Southwest Populations)

Charting the Course—the Forest Service Grizzly Bear Conservation Program

Coordinating Elk and Timber Management

Cumulative Effects Analysis Process for the Rocky Mountain Front — Northern Continental Divide Grizzly Bear Ecosystem (1987)

Fire Management Action Plans

Forest Plan Monitoring and Evaluation Reports (1987 and 1988)

Grizzly Bear Recovery Plan (1982)

Interagency Grizzly Bear Guidelines

Interagency Rocky Mountain Front Wildlife Monitoring/Evaluation Program Management Guidelines for Selected Species

Lewis and Clark National Forest Plan (1986)

Lewis and Clark National Forest Wildlife and Fisheries Program report

3 livestock grazing AMPS

Northern Rocky Mountain Wolf Recovery Plan (1987)

5 oil and gas leasing environmental assessments

7 timber sale environmental assessments

Sawtooth National Forest

Bald Eagle Management Plan for the Greater Yellowstone Ecosystem (1983)

Cassia Wildlife Habitat Monitoring Plan (1983)

Draft Five-Year Fish and Wildlife Action Program (1988)

Draft Wildlife Monitoring Program (1989)

Environmental Assessment for Cassia Timber Evaluation (1980)

Environmental Assessment for Reintroduction of Bighorn Sheep to the Twin Falls Ranger District

3 livestock grazing AMPs

Kossman Canyon Timber Sale Plan and Environmental Assessment

Riparian Action Program—Intermountain Region 1988-1992

Sawtooth National Forest Land and Resource Management Plan (1987)

Wildlife Plan for Dead and Defective Tree Habitat

Sierra National Forest

Management Plan for the North Kings Deer Herd (1984)

Minarets Wilderness Management Plan

Proposed Forest Land and Resource Management Plan (1986)

Recovery Plan for the Peregrine Falcon on the Sierra National Forest (1985)

Regulated Road Use Plan for Pineridge Ranger District

Transportation System Management Plan for the Kings River District

Walker Mine Timber Sale Environmental Assessment and Sale Area Improvement and Knutson-Vandenburg Act Collection Plan

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Related GAO Products

Reports

Rangeland Management: BLM Efforts to Prevent Unauthorized Livestock Grazing Needs Strengthening (GAO/RCED-91-17, Dec. 3, 1990).

Public Lands: Limited Progress in Resource Management Planning (GAO/RCED-90-225, Sept. 27, 1990).

California Desert: Planned Wildlife Protection and Enhancement Objectives Not Achieved (GAO/RCED-89-171, June 23, 1989).

Public Rangelands: Some Riparian Areas Restored but Widespread Improvement Will Be Slow (GAO/RCED-88-105, June 30, 1988).

Rangeland Management: More Emphasis Needed on Declining and Overstocked Grazing Allotments (GAO/RCED-88-80, June 10, 1988).

Testimony

Management of the Public Lands by the Bureau of Land Management and the U.S. Forest Service (GAO/T-RCED-90-24, Feb. 6, 1990).

Change in Approach Needed to Improve the Bureau of Land Management's Oversight of Public Lands (GAO/T-RCED-89-23, Apr. 11, 1989).

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