

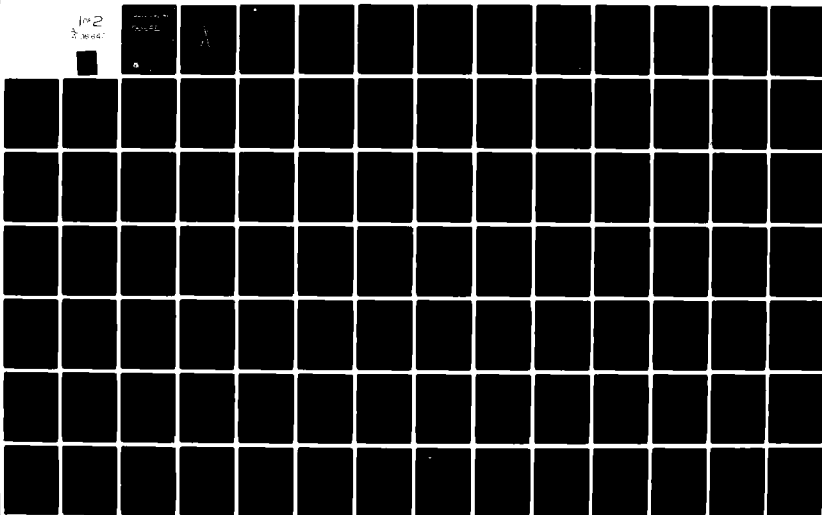
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① LEVEL II

REPORT BY THE U.S.

General Accounting Office

⑥ National Direction Required For Effective Management Of America's Fish And Wildlife .

The Department of the Interior's Fish and Wildlife Service is having problems fulfilling its responsibility for conserving, protecting, and enhancing America's fish and wildlife because it is not providing guidance to field managers and lacks priorities, staff, and funds. Other Federal land-managing agencies are also experiencing problems managing fish and wildlife. The Service has been aware of many of them and has made progress in seeking their solution.

GAO is recommending that the Secretaries of the Interior and Agriculture take actions that will provide national direction for more effective management of America's fish and wildlife. The Fish and Wildlife Service should establish a priority system to identify and review those developmental projects that have the worst potential impact on the resources and to recommend appropriate mitigation action. Using available funds where they are most needed is of particular importance in view of current budget restraints.

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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

COMMUNITY AND ECONOMIC
DEVELOPMENT DIVISION

B-196756

The Honorable John R. Block
The Secretary of Agriculture

The Honorable James G. Watt
The Secretary of The Interior

This report discusses the problems the Fish and Wildlife Service is having in carrying out its overall responsibility for conserving, protecting, and enhancing America's fish and wildlife. Other Federal land-managing agencies are also experiencing problems managing fish and wildlife on Federal lands.

Our prior reviews of Federal agencies' fish and wildlife programs were aimed at specific programs. Some recurring management problems were identified in many of these reviews. Therefore, we conducted this review to evaluate the overall effectiveness of Federal agencies' management of fish and wildlife resources and habitat to assure that man's development activities have the least possible adverse effect on fish and wildlife.

This report contains recommendations to you on pages 20, 33, 41, and 52. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending report copies to the committees named above; the Director, Office of Management and Budget; the Directors, Fish and Wildlife Service, National Park Service, Water and Power Resources Service, and Bureau of Land Management; the Chief of the Forest Service; and the Secretary of Defense.

Henry Eschwege

Henry Eschwege
Director

GENERAL ACCOUNTING OFFICE
REPORT TO THE SECRETARIES OF
AGRICULTURE AND THE INTERIOR

NATIONAL DIRECTION REQUIRED
FOR EFFECTIVE MANAGEMENT OF
AMERICA'S FISH AND WILDLIFE

D I G E S T

The Nation's fish and wildlife are important to Americans, not only for scientific, cultural, and social benefits, but as essential components of a healthy environment. The demand for developing natural resources, minerals, and energy to meet America's needs will continue to affect fish and wildlife, especially in Alaska where some of the Nation's most valuable fish and wildlife resources and habitat are located.

The Fish and Wildlife Service, Department of the Interior, is having problems (1) responding to Federal agencies' requests to review projects that could adversely affect fish and wildlife and (2) managing wildlife refuges and fish hatcheries. Further, the National Wildlife Refuge and Fish Hatchery Systems have deteriorated to the point where there is a \$650 million new development and rehabilitation backlog. Interior needs to strengthen its consultation role, provide guidance to managers of refuges and hatcheries, and establish priorities on which refuges and hatcheries should be operated and rehabilitated.

Other Federal land-managing agencies are also experiencing problems managing fish and wildlife on Federal lands.

GAO has identified recurring management problems in prior reviews of specific Federal fish and wildlife programs. Therefore, GAO made this review to evaluate the overall effectiveness of Federal agencies' management of fish and wildlife resources and habitat to assure that man's development activities have the least possible adverse effect on fish and wildlife.

THE SERVICE'S CONSULTATION
ROLE NEEDS TO BE STRENGTHENED

Several laws require Federal agencies to seek the advice of the Service on planned activities that may affect fish and wildlife. However, the Service is able to respond to only about half of these requests. (See p. 9.) When requested,

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AUGUST 24, 1981

the Service (1) sometimes does not adequately study ways to lessen adverse impacts on fish and wildlife, (2) does not always respond in a timely manner, and (3) rarely follows up on its recommendations for fish and wildlife conservation efforts. Further, the Service's research program is not clearly defined and is split between two groups. (See pp. 11 to 14.)

The Service cited lack of staff and funds as the main reason it cannot respond to all requests. (See p. 9.) However, the Service has not established a priority system to identify and respond to those projects having the worst potential impact on fish and wildlife. (See p. 18.)

DIFFICULTIES MANAGING WILDLIFE REFUGES AND FISH HATCHERIES

Effective management of the National Wildlife Refuge System has been limited because the Service has not provided needed guidance. (See p. 22.) It

- has not updated its Wildlife Refuge Manual since the early 1960's (see p. 23);
- does not have waterfowl management plans with specific goals and objectives (see p. 24);
- operates wildlife refuges that have little wildlife value because habitat has been lost or has deteriorated, has never existed, or has never been developed (see p. 26);
- is properly operating and maintaining only about 46 percent of the refuges (see p. 27); and
- permits land uses on some refuges that conflict with wildlife values (see p. 28).

In 1977 the Congress authorized a 5-year, \$250 million program to rehabilitate the refuge system. By the end of fiscal year 1981, the Service will have spent an estimated \$195 million under this program. However, it estimates that it has a \$550 million new development and rehabilitation backlog. (See p. 28.)

The Service is also having problems managing the National Fish Hatchery System. It has not been able to establish and carry out national priorities for identifying which fish species to produce and which hatcheries to operate.

Because it has not properly maintained them, it needs an estimated \$100 million to rehabilitate greatly deteriorated hatcheries. (See pp. 30 and 32.)

The Service is having problems managing refuges and hatcheries because of lack of direction to its field managers and funding limitations. In view of the \$650 million new development and rehabilitation backlog, the Service needs to (1) define the types of refuges and hatcheries that should be developed, operated, and maintained, (2) determine which marginal facilities could be eliminated, and (3) establish a rehabilitation priority funding system to improve the remaining facilities. (See p. 33.)

THE ANIMAL DAMAGE CONTROL PROGRAM NEEDS REASSESSING

The Animal Damage Control Act of 1931 authorized a program to eradicate, suppress, and destroy specific predators, including coyotes. Current Service policy regarding predator control places greater emphasis on controlling than on eradicating predators. (See p. 35.)

The act needs to be reevaluated and revised because the Service's current policy and attitudes, which stress conservation and protection of fish and wildlife, conflict with the act's original intent. Further, the current program is unsatisfactory to livestock producers and wildlife interests, and there is also concern that it has not significantly reduced livestock losses caused by predators. (See pp. 35 to 38.)

Livestock insurance as an alternative to this program has been considered by two agencies but was found infeasible. Further study is needed to determine if insurance is viable. (See p. 38.)

LAND MANAGEMENT AGENCIES SHOULD GIVE MORE ATTENTION TO FISH AND WILDLIFE

The principal concern of the Federal land management agencies is with resources other than fish and wildlife. The National Park Service emphasizes preservation and recreation; the Forest Service traditionally looks after commodity-type resources such as timber; and the Bureau of Land Management stresses resource uses with economic value, such as livestock grazing and mineral development. (See p. 42.)

This lack of attention to fish and wildlife resources is compounded by the fact that the agencies have differing mandates and authorities and emphasize different activities. As a result, wildlife species and habitat are managed differently on adjacent tracts of land merely because man-made jurisdictional boundaries have been drawn. To help resolve this problem, the Fish and Wildlife Service could be designated as the lead agency for wildlife that migrate across adjacent Federal lands. (See p. 49.)

FISH AND WILDLIFE MANAGEMENT IN ALASKA

Enactment of the Alaska National Interest Lands Conservation Act (Public Law 96-487) on December 2, 1980, established a total of 104 million acres of new conservation units in Alaska that have abundant natural resources including fish and wildlife. The responsibility for managing these newly designated Federal lands presents a challenge to strike a balance between conservation and development and will require cooperation among Federal, State, Native, and private parties. (See p. 54.)

Alaska also has traditional fish and wildlife management problems such as limited resources, conflicting agency goals and objectives, and lack of data. However, for the present they are less significant than in other States because most of the land has not been developed. In addition, several Federal agencies, Native groups, and the State have formed a task force to foster better cooperation between the various landowners or interested resources managers. But as the demand for development increases, Alaska can expect many of the same problems that confront fish and wildlife managers elsewhere. (See p. 58.)

RECOMMENDATIONS

GAO makes several recommendations to the Secretaries of the Interior and Agriculture for better management of the Nation's fish and wildlife resources and habitat. Among these is a recommendation that the Fish and Wildlife Service establish a priority system to identify, review, and take appropriate mitigation action for those developmental projects that have the worst potential impact on fish and wildlife. Using available funds where they are most needed is of particular importance in view of current budget restraints. (See pp. 20, 33, 41, and 52.)

AGENCY COMMENTS AND GAO's EVALUATION

GAO met with agency officials responsible for the various programs and activities in May and June 1981. Their specific comments and suggestions were considered in preparing the final report. The Fish and Wildlife Service submitted written comments which are included in appendix V.

The Service said the report accurately pinpoints a number of areas of concern. It agrees that the lack of resources has hampered its consultation role and its ability to manage some refuges and hatcheries effectively. Its comments describe the actions in process or planned to correct the problems GAO noted.

Two agencies--the Bureau of Land Management and the Forest Service--believed their efforts were greater than GAO's report shows, but generally they did acknowledge the need to better manage fish and wildlife on their lands. They did not agree with GAO's recommendation that the Secretaries of the Interior and Agriculture should enter into a cooperative agreement which will give the Fish and Wildlife Service the authority to decide how animals should be managed by other agencies in those instances where wildlife species migrate across adjacent Federal lands.

Also, the Fish and Wildlife Service does not want the legal authority to manage animals moving across agency boundaries. However, the Secretaries of the Interior and Agriculture certainly have the authority to enter into cooperative agreements as GAO recommends. Furthermore, the problems described in this report have existed for years, and past cooperative efforts have not been successful. Therefore, GAO believes that its recommendations would help solve this problem.

The National Park Service was also given the opportunity to comment on the draft report, but its comments were not received in time to include in the final report.

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CHAPTER 1

INTRODUCTION

The Nation's wildlife resources are important to its citizens. Not only are these resources of scientific, cultural, and social benefit, they are considered essential components of a healthy environment. However, man's development activities threaten the survival of some of these resources. The development and use of the Nation's natural resources continues in an effort to provide people with their basic needs and to improve their lives. This includes energy development, transportation, mineral extraction, urban growth, recreational developments, agricultural practices, and water use and appropriation. This development and use can adversely affect the habitat of fish and wildlife resources.

The fish and wildlife resources and habitat management programs and activities carried out by Federal agencies fall into two broad areas:

- Conservation through mandating consideration of the impacts of Federal actions on fish and wildlife.
- Managing wildlife resources and habitat on Federal lands, including operating wildlife refuges and fish hatcheries and controlling predators.

The Fish and Wildlife Service, Department of the Interior, has overall responsibility for conserving, protecting, and enhancing fish and wildlife in the United States. Historically, Service programs were designed to meet specific needs not being addressed by States, such as regulating interstate commerce of wildlife and wildlife products, protecting migratory species, developing and operating sport fishing hatcheries and wildlife refuges, and controlling predators.

Increased environmental awareness in the 1960's resulted in new authorizing legislation for fish and wildlife. The Service was given new responsibilities, including the authority to protect and enhance endangered species, assist other Federal agencies to assure that fish and wildlife values are adequately considered, take action to minimize impacts on fish and wildlife caused by human actions, and protect special segments of wildlife such as some species of marine mammals.

This report focuses on how well Federal agencies have managed fish and wildlife resources and habitat and have minimized the impact of their actions on fish and wildlife. The report has a chapter on the consultative role of the Fish and Wildlife Service (ch. 2), management of wildlife refuges and fish hatcheries (ch. 3), the Animal Damage Control Program (ch. 4), fish and wildlife management in parks and on public lands (ch. 5), and fish and wildlife management in Alaska (ch. 6).

GOVERNMENT EFFORTS TO PROTECT FISH AND WILDLIFE RESOURCES

Historically, matters pertaining to fish and wildlife resources have been the province of the States. Starting in 1900, the Federal Government began assuming an increasingly significant share of the role in fish and wildlife management as congressionally legislated in this area. Today, over 100 treaties, international agreements, Federal statutes, Executive orders, and Federal regulations provide a complex array of interrelated and sometimes overlapping requirements.

Mandating consideration of wildlife impacts

By the 1930's it was apparent that wildlife conservation could not be assured solely by means of laws which regulated direct utilization of wildlife or set aside refuges for its protection. Measures were also needed which would interject consideration of the impact on wildlife into the planning of land and water development. By requiring this consideration, it was hoped that alternatives having less adverse impacts on wildlife could be identified. The Service ^{1/} has been the primary focal point in the Federal Government for such efforts through the Secretary of the Interior.

One of the most important laws mandating consideration of impacts on wildlife was the Fish and Wildlife Coordination Act of March 10, 1934 (16 U.S.C. 661 et seq.). It required development agencies to consult with the Department of the Interior to determine those provisions that were necessary and economically practicable for passage of fish at any dams constructed by the Federal Government or a private agency under Federal license. Subsequent amendments to the act expanded and reemphasized this mandate.

In the late 1960's, Americans had become more aware of the effects that water and land development were having on the overall quality of the environment, including fish and wildlife habitat and resources. The National Environmental Policy Act (42 U.S.C. 4321 et seq.) was adopted on January 1, 1970. It required early consultation with Federal agencies, including the Fish and Wildlife Service, and the public in the planning of all Federal actions that could adversely affect the environment. For major Federal activities, the National Environmental Policy Act also required preparation of environmental impact statements which describe the impacts and identify alternatives.

^{1/}The sequence of agency designations was Bureau of Fisheries (Department of Commerce), 1871-1940; Bureau of Biological Survey (Department of Agriculture), 1885-1940; Fish and Wildlife Service 1940-56; Bureau of Sports Fisheries and Wildlife, 1956-74; and United States Fish and Wildlife Service, 1974 to present.

Several other acts reflect the Congress' concern that the environment, including fish and wildlife resources, be adequately considered in Federal and State activities or programs. Some of these are:

- Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.).
- Estuarine Areas Act, 1968 (16 U.S.C. 1221 et seq.).
- Geothermal Steam Act of 1970 (30 U.S.C. 1001 et seq.).
- Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.).
- The Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.).
- Alaska National Interest Lands Conservation Act of 1980 (16 U.S.C. 3101 et seq.), 94 Stat. 2371.

Direct management of habitat

The Federal Government owns about 760 million acres of land, approximately one-third of the Nation's 2.3-billion-acre landmass. Four principal agencies manage federally owned lands.

- The Fish and Wildlife Service, Department of the Interior, manages the National Wildlife Refuge System, the National Fish Hatchery System, and an Animal Damage Control Program aimed at reducing livestock losses from coyotes.
- The Forest Service, Department of Agriculture, manages our national forests.
- The Bureau of Land Management, Department of the Interior, manages over 60 percent of federally owned lands.
- The National Park Service, Department of the Interior, manages the National Parks System.

Fish and Wildlife Service

Currently, the Service manages over 90 million acres of land and water which comprise the National Wildlife Refuge System and the National Fish Hatchery System. Unlike the lands managed by the Forest Service, Bureau of Land Management, and National Park Service for a variety of resources and purposes, these lands and waters are managed chiefly for fish and wildlife conservation.

The refuge system operates under the authority of numerous enabling acts. The first refuges were established by Presidential proclamation at the turn of the 20th century. Soon after, the

Congress authorized the President in 1905 and 1906 to designate wildlife refuges within Wichita and Grand Canyon National Forests, respectively, and then itself established a National Bison Range in Montana in 1908.

Federal responsibility for conserving migratory waterfowl originated in 1913 with the Migratory Bird Act; in 1916 the Congress ratified a treaty with Great Britain (for Canada) to protect birds that migrate between Canada and the United States. A similar treaty was entered into with the United Mexican States in 1936. The Migratory Bird Treaty Act of 1918 repealed the 1913 act and, as amended in 1936 (16 U.S.C. 703 et seq.), implemented provisions of these treaties and regulated the taking, transporting, and importing of migratory birds.

Until 1966, no single law governed the administration of the many Federal wildlife refuges. The Service totally or jointly managed numerous administrative units including game ranges, wildlife ranges, wildlife management areas, waterfowl production areas, and wildlife refuges. The 1966 National Wildlife Refuge System Administration Act consolidated the various units into the National Wildlife Refuge System.

The Federal fisheries management role began in 1871 when the Congress established the Office of the Commissioner of Fish and Fisheries to investigate declining numbers of food fishes in U.S. lakes and coastal waters. The first hatchery was established under an 1872 appropriation to restore food fishes. Currently, the Service's National Fish Hatchery System consists of 88 fish hatcheries and a variety of related facilities in 39 States. The system was authorized by many different enabling acts including

- the Mitchell Act, which authorized 8 hatcheries;
- the White Act, which authorized 17 hatcheries; and
- the Fish and Wildlife Coordination Act, which authorized 11 hatcheries.

Other hatcheries have been authorized through various special acts, appropriation acts, and other miscellaneous acts such as the Federal Reclamation, National Industrial Recovery, Bankhead-Jones Farm Tenant, Palisades Dam, Upper Mississippi River Wildlife and Fish Refuge, Colorado River Storage Project, and Rivers and Harbors Acts.

In addition to refuges and hatcheries, the Service operates a predator control program pursuant to the Animal Damage Control Act of 1931 (7 U.S.C. 426-426b), as amended. In 1931, the wording of the act reflected attitudes at that time--eradication, suppression, and conducting campaigns for the destruction of predators. Attitudes and perspectives have changed, and the Service now places greater emphasis on that part of the act that addresses bringing predators under control. The current mission

of the Animal Damage Control Program is to "assist in reducing wildlife caused damage in a manner which minimizes impacts on wildlife resources."

Forest Service and
Bureau of Land Management

The national forests and lands under responsibility of the Bureau of Land Management are managed under the principle of "multiple-use," in which wildlife conservation is but one of several purposes to be served. The public lands, totaling about 600 million acres, are very important because they contain significant quantities of natural resources and values essential to the national economy, growth, and quality of life, such as energy and nonenergy minerals, timber, grazing forage for livestock, outdoor recreation, wilderness, fish and wildlife habitat, water and watersheds, scenic beauty, and historic and cultural sites and artifacts.

Fundamental public land management policies and procedures have been prescribed by four comprehensive statutes for the Forest Service and Bureau of Land Management.

- The Multiple-Use and Sustained Yield Act of 1960 (16 U.S.C. 528 et seq.).
- The Forest and Rangeland Renewable Resources Planning Act of 1974, and as amended by Public Law 94-588, The National Forest Management Act of 1976 (16 U.S.C. 1600 et seq.).
- The Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.).

Through these acts the Congress has set a common and challenging goal for the Forest Service and the Bureau to manage the public land and associated resources in a manner which best meets the present and future needs of Americans. This requires striking a balance between three competing and usually conflicting basic objectives:

- Using and developing resources.
- Protecting and conserving resources.
- Maintaining the quality of the environment.

It also requires ensuring appropriate balance and diversity among resource uses.

To accomplish these objectives, the acts require both agencies to plan for and manage their lands on the basis of the multiple-use/sustained-yield principle. This principle basically means harmonious, coordinated management of all resource values on large areas of land and the best combination of diverse land

uses, both developmental and protective. Plans must provide sufficient latitude to conform to changing needs and conditions and also consider the long-term needs of future generations for renewable and nonrenewable resources. The purpose of the principle is to ensure that the productivity of the land and the quality of the environment are not permanently impaired. It does not necessarily mean use of all resources or the combination of uses that gives the greatest unit output or economic return.

National Park Service

Currently, the National Park Service manages more than 76 million acres of land, most of which are national parks, wild and scenic rivers, recreation areas, preserves, and monuments. The national parks are managed under the principle of preservation. The 1916 act establishing the National Park Service includes the following objective:

"* * * to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Since the 1960's, the Park Service management policy has followed the recommendations of a 1963 report entitled "Wildlife Management in the National Parks." Key recommendations from this report include:

- As a primary goal, biological associations within each park should be maintained or re-created in the conditions that prevailed when the area was first visited by the white man.
- Management of parks should be limited to native plants and animals.
- Ungulate (hoofed animal) populations should be reduced to the level that the range can adequately carry through methods such as natural predation, trapping and transplanting, shooting outside of park boundaries, and shooting within the park.

Reclassification of Alaska lands

The Alaska Native Claims Settlement Act (43 U.S.C. 1601 et seq.) is an aboriginal land claims settlement act which will transfer about 44 million acres of land to over 225 Alaska Native Corporations (established by the act) and, in addition, authorizes payments to Alaska Natives totaling \$962.5 million.

The framers of the legislation recognized that the Native land transfer and the prior statehood land grant of about 103 million acres could have substantial impacts on the nationally significant natural resources of Alaska. As a result, provisions of

the act extend beyond the legal compensatory and social needs of settling Native claims by providing several mechanisms for land use planning in Alaska.

Subsection 17(d)(2) of the act directed the Secretary of the Interior to withdraw up to 80 million acres for study as to its suitability for inclusion in the four principal National conservation systems--parks, forests, wildlife refuges, and wild and scenic rivers. This requirement was met in late 1980 when the President signed the Alaska National Interest Lands Conservation Act (Public Law 96-487), which sets aside 104 million acres for protection.

OBJECTIVES, SCOPE, AND METHODOLOGY

The principal objective of our review was to determine the effectiveness of Federal efforts in minimizing conflicts between fish and wildlife resources and man's development activities. More specifically, this review focused on the effectiveness of:

- The Fish and Wildlife Service's role of consulting with other Federal agencies on the impact of Federal projects on fish and wildlife resources.
- The Fish and Wildlife Service's management of wildlife refuges, fish hatcheries, and the Animal Damage Control Program.
- The Bureau of Land Management's, Forest Service's, and Park Service's management of fish and wildlife resources and habitat.

To meet our objective, we interviewed officials in headquarters and field offices of the Fish and Wildlife Service, Bureau of Land Management, National Park Service, Forest Service, U.S. Army Corps of Engineers, and Water and Power Resources Service, as well as at selected State governments. We also discussed our work with numerous private organizations, such as the National Audubon Society, Environmental Defense Fund, Sierra Club, The Nature Conservancy, and several Alaska Native groups.

We also identified and reviewed various laws mandating consideration of impacts on wildlife. The Fish and Wildlife Coordination Act of 1934 is the principal law that governs the Service's activities. We analyzed these laws to determine whether the environment, including fish and wildlife resources, has been adequately considered in Federal and State activities or programs.

We reviewed the various Federal agencies' policies, regulations, and procedures dealing with their role in fish and wildlife management. We also reviewed the management reports issued by different organizations that have studied fish and wildlife management.

We visited six Fish and Wildlife Service regions, seven State offices of the Bureau of Land Management, six Forest Service regions, and five National Park Service regions. Specific locations visited are shown in appendix I. We selected these locations to provide dispersed geographic coverage of the areas where public lands are concentrated. At these locations we identified and developed the information and examples presented in the following chapters which illustrate how Federal agencies are managing the Nation's fish and wildlife resources and habitat.

Preliminary meetings held with top management officials of the various Federal, State, and private agencies and organizations revealed that the Fish and Wildlife Service was not able to carry out its consultative role for the development, dissemination, and coordination of information and management techniques to ensure that the Nation's fish and wildlife resources and habitat are not unduly affected by human development activities. We also learned that the Service was having difficulties managing its wildlife refuges, fish hatcheries, and Animal Damage Control Program. Further, we found that other land management agencies were devoting limited attention to managing fish and wildlife.

Measuring the loss of fish and wildlife resources in monetary terms was not possible since it is difficult to place a value on these resources. Therefore, even though there were instances where habitat was lost or altered, we were not able to nationally quantify the loss of fish and wildlife because the Service lacked adequate staff and funds to respond to all consultative requests, adequately study some projects, be timely, and carry out an effective research program. This limitation also applied to adverse effects from the Service's problems in managing wildlife refuges, fish hatcheries, and the Animal Damage Control Program, as well as the impact that other Federal agencies' programs and activities had on fish and wildlife resources and habitat.

The Service has been cognizant of many of the problems identified during our review and since completion of the field work has made some significant strides in seeking their solution. However, since most of these efforts were just formulated, the effectiveness of those actions cannot be evaluated at this time.

Mr. David Hickok, an independent consultant, assisted us with this review. Mr. Hickok has over 30 years experience in fish and wildlife management and is currently Director of the Arctic Environmental Information and Data Center, University of Alaska.

CHAPTER 2

EFFORTS TO PROTECT FISH AND WILDLIFE THROUGH CONSULTATIONS WITH OTHER AGENCIES

NEED STRENGTHENING

The Fish and Wildlife Coordination Act and a number of other environmental protection laws require agencies to consult with the Fish and Wildlife Service on land and water development projects affecting fish and wildlife. The Service, however, was able to respond to only about 22,500 of the 47,000 requests in fiscal year 1980 to study the impact of projects on fish and wildlife and to recommend mitigation efforts needed to minimize the loss of fish and wildlife or habitat. When requested, the Service (1) sometimes does not adequately study ways to lessen adverse impacts on fish and wildlife, (2) does not always respond in a timely manner, and (3) rarely follows up on its recommendations for conserving fish and wildlife. Its research program is not clearly defined and is fragmented between two groups. Although there were instances where habitat was lost, information is not available which nationally quantifies the loss of fish and wildlife or habitat because the Service was not responding to requests or because it was not following up on its recommendations.

The Service's Associate Director, Environment, stated that the Service cannot respond to all requests primarily due to lack of staff and funds. Also, the Service believes that a key point accounting for its inability to respond to all requests for consultation is that its role in interagency decisionmaking often is only implied or insufficiently stated in legislation. However, the Service has not established a priority system to identify and respond to those projects having the worst potential impact on fish and wildlife. It is left up to the field area offices to decide on a case-by-case basis which requests to respond to with little guidance from headquarters. The Service has recognized the need to reevaluate its organizational structure, management planning, and staffing patterns in order to unify its mission and has developed a priority system for its resources. However, this system is too new to evaluate its effectiveness.

CONSULTATION ROLE NEEDS STRENGTHENING

Several acts require agencies involved in land and water development and the issuance of permits/licenses to consider environmental concerns, including fish and wildlife resources and habitat, and to obtain the comments of other Federal and State agencies and the public. There are 14 major legal authorities which the Service cites as giving it responsibility to provide assistance or to review, comment on, and make recommendations relative to fish and wildlife matters either directly to the requesting agency or indirectly through the Secretary of the

Interior in his efforts to carry out his review and comment responsibilities to the requesting agency. The Service cites the Fish and Wildlife Coordination Act as the primary legal authority for providing assistance, conducting reviews, giving comments, and making recommendations for development activities and programs.

In addition to these legal mandates, the Service has defined its consultative responsibilities to include activities in which the Service is not specifically identified in the legislation. For example, the Service is not identified in the legislative authorization for offshore oil leasing, but is involved through a Department of the Interior Secretarial order. The Department also uses Secretarial orders to require the Service to review, comment on, and make recommendations for coal, mineral, outer continental shelf, and pipeline activities and operations.

The Service is unable to respond to
all agency requests

The Service has been able to meet only about half the requests from Federal and State development and permitting/licensing agencies to review, comment on, and make recommendations relative to development activities and programs affecting fish and wildlife. According to the Service's Associate Director, Environment, underfunding and understaffing are the main reasons why the Service cannot discharge its responsibilities in fish and wildlife protection.

In fiscal years 1978 and 1979 the Service was able to respond to only about 54 percent of the requests for its services. Although about 47,000 requests were made in 1980, it had responded to only about 22,500, or about 48 percent. Appendixes II, III, and IV show in detail the total workload for fiscal years 1978 to 1980 and the extent the Service responded to requests.

The Service expects its workload to increase in the future. This will occur not only because of increased activities in the areas which the Service is now trying to cover, but also because of additional consultative responsibilities the Service will have in reviewing and commenting on pipeline, coal, and synthetic fuels activities.

The Service's Division of Ecological Services performs its consultative role under the Fish and Wildlife Coordination Act. From fiscal years 1978-80, the division was staffed at 299 positions, while funding ranged from \$13.7 to \$14.7 million. The Service estimated that it would require 650 permanent, full-time employees and \$32 million to effectively carry out the consultation required under the Fish and Wildlife Coordination Act--excluding activities for which transfer funds are transferred to the Service by the Corps of Engineers and the Water and Power Resources Service. However, these estimates have never been presented to the Congress.

A second reason why the Service cannot meet all review, comment, and recommendation requests is its lack of knowledgeable personnel in specific scientific fields. The Service's Associate Director, Environment, stated that for water quality activities such as section 209 plans (areawide water quality plans) or section 402 permits (national pollution discharge elimination system permits), the Service has very limited capability to evaluate the effect of water pollution on fish and habitat.

The Service is not adequately performing some studies

The Service does not always adequately study potential impacts of proposed development projects on fish and wildlife resources. As a result, wildlife losses caused by a project and measures that could be taken to minimize those losses are not identified and considered before the project is started. Further, the lack of adequate study results in subsequent studies having to be made long after decisions have been made and construction has begun.

For example, in the case of six dredge-and-fill permit applications by several oil companies in Louisiana, the Service made only cursory reviews. While potential wildlife losses were identified, measures to minimize the losses were not developed and communicated for consideration by the permit applicants. In one of the six permits, an oil company applied for a Corps of Engineers permit to dredge and maintain an extension to an existing canal for access to three oil well sites. The dredging operation would consist of removing 280,867 cubic yards of material and depositing it onto adjacent wetlands. The affected wetlands were 54 acres of wooded swamp. The Service made a cursory review of the permit application but did not make any field investigations or recommendations. As a result, the permit application was granted and 54 acres of wooded swamp were lost. This habitat was vital to the well-being of many sport and commercial fish and wildlife species.

In another example--Granite Reef Aqueduct Project in Arizona--the Service identified adverse effects of the project on fish and wildlife resources, developed recommendations, and reported them to the development agency. However, the proposed mitigation measures were much more extensive than needed to protect wildlife and habitat. The Service believes that differences of opinion over needed mitigation are routine on major projects; however, we believe that any such differences need to be resolved on a timely basis in order to avoid project delays and assure adequate wildlife protection. Some protective measures have been accepted, but additional studies are being conducted even though construction has begun. Because the Service did not make an adequate study, reasonable mitigation measures may not be known until construction is nearly completed.

The Service is not always timely

The Service has not always provided timely input to the Corps and the Water and Power Resources Service. We noted cases where permit processing and project delays occurred.

Our June 9, 1980, report entitled "Managerial Changes Needed To Speed Up Processing Permits for Dredging Projects" (CED-80-71) discussed delays and problems in the dredging permit process. The report concluded that lengthy permit processing time is costly to applicants, makes planning difficult, and can hinder construction and water transportation. The report stated that lengthy processing time is caused by several different factors. One factor was that Federal agencies, including the Service, did not make timely responses to public notices. In its comments on the draft report, the Department of the Interior on behalf of the Service stated that:

"We believe that the extreme workload relative to the available manpower and funding is an extremely important factor in the problem of timely action. Some time extensions are requested because no personnel were available for earlier investigation of the application * * *."

According to the Service's Olympia, Washington, field station permits coordinator, a very heavy office workload caused delays in responding to about 25 percent of the permit applications received involving activities in the State. Further, during the period October 1977 through March 1980, the Service was late in responding to 11 of 63 (17 percent) permit applications at the Corps' Fort Worth district office. The Service requested and was granted extensions in 10 of the cases.

Although the Service has not been timely in providing comments on permit applications, delays do not always adversely affect fish and wildlife resources. For example, the Chief of the Regulatory Functions Branch, Corps of Engineers' Seattle District Office, stated that the office will not process a permit application without the Service's comments. Conversely, the Corps' Southwest Division, Fort Worth district, issued a policy statement that any late Service comments would be acknowledged but would not be considered in processing the permit. In these cases, the Service has no assurance that fish and wildlife resources will receive proper consideration and be conserved, protected, or enhanced. This policy of not considering late comments is applicable to the Corps' other Southwest Division districts.

On April 23, 1980, the Corps' Director of Civil Works wrote a memorandum to the Service's Director expressing concern that Service reports were being submitted very late, which affected the Corps' project planning schedules. These untimely reports may have prevented the Corps from considering Service input at critical points during the planning process.

The Water and Power Resources Service has also expressed concern that the Service is not providing timely input, which has caused costly delays in its project planning process or has resulted in it proceeding without the benefit of the Service's information. Examples where this has occurred are the Title One Colorado Basin Salinization Project, the Minidoka Powerplant Rehabilitation and Enlargement Project, and the Southwest Idaho Water Management Study.

Although lack of funds and staff was the primary reason that the Service was untimely in responding to consultation requests, we were provided with the following additional reasons:

- Turnover of Service personnel.
- Hesitancy of Service personnel to make recommendations or take risks.
- Inexperienced staff.
- Lack of receiving project data or inadequate information provided with public notices.
- Untimely transfer of funds.

The Service needs to follow up
on its recommendations

Although the Fish and Wildlife Coordination Act does not require it, the Service needs to follow up on its recommendations to determine whether (1) its recommendations have been accepted, (2) accepted recommendations have been implemented, (3) its recommendations have proved to be biologically sound and effective, (4) additional measures for wildlife conservation should be incorporated into a development project, and (5) lessons learned can benefit future developments.

The Service has recognized the importance of followup activities in its procedures and planning documents. The Service's River Basin Studies Manual states that the followup program is important and begins when a development project is essentially completed and becomes operational. Also, a Service program management document states that its general policy is to follow up on all significant recommendations accepted by action agencies to determine whether they were initially implemented, were effective, and will remain functional throughout the life of the plan or project.

However, the Service follows up on very few of its recommendations to assure that development agencies are adequately carrying out the recommended wildlife conservation measures. As a result, the Service has little assurance that fish and wildlife resources are being protected. The following table shows how few

followup reviews the Service conducted during fiscal years 1978, 1979, and 1980 (estimated).

<u>Fiscal year</u>	<u>Number of recommendations</u>	<u>Number followed up</u>	<u>Number not followed up</u>	<u>Percent not followed up</u>
1978	313	25	288	92.0
1979	396	34	362	91.4
1980 (estimated)	411	29	382	92.9

The Service's Associate Director, Environment, stated that the Service does not perform many followup reviews due to lack of funding and staff. A staff specialist for environment in the Jackson, Mississippi, area office stated that the lack of follow-up reviews is one of the Service's greatest weaknesses.

We found that results of the followup reviews the Service does conduct indicate that more followup reviews need to be made. For example, the Service, in following up on the Fort Gibson Project in Oklahoma, found that due to insufficient funding for about a 20-year period, the State wildlife agency had not developed 21,798 acres of land as game management areas and public shooting grounds, as had been recommended. Instead, the Corps of Engineers had issued grazing leases for 14,000 of the 21,798 acres. The followup found that the Corps-administered lands had been extensively overgrazed. At that time the State wildlife agency had just begun rehabilitation work and wildlife improvements, such as fertilizing overgrazed areas and constructing new access roads to the 14,000 acres.

The Service believes that the burden for followup should rest with the construction agency, not with the Service, and that any work of this kind done by the Service is only to provide an assessment of the effectiveness of Service recommendations. We agree that followup should provide an assessment of the effectiveness of Service recommendations. However, we believe that this is only one purpose to be served by followup. Because the Service has overall responsibility for conserving, protecting, and enhancing the Nation's fish and wildlife resources, we believe that followup is needed to determine whether Service recommendations have been accepted and implemented, additional measures are needed, and lessons learned can benefit future efforts.

Research role is not clearly defined

The Service's research efforts are not clearly defined and are fragmented between two groups--the Biological Services Program and the Research Program. Further, Federal and State agencies generally do not view the Service as a focal point for such

expertise. Also, views vary even between the Service's organizational units as to its role in developing and disseminating research information.

Biological Services Program

In 1974 the Service established the Biological Services Program to strengthen and extend its involvement in fish-and-wildlife-related research. The program's emphasis is on the continual upgrading of a data base to help assure that fish and wildlife and related ecosystems (system of interrelated physical and chemical environments) receive fair consideration by Government decision-makers and others concerned with environmental protection before resource management decisions are made. The program includes information collection, synthesis, and analysis; development of methodologies and data storage, retrieval, and analytical technologies; information transfer, dissemination, management, and evaluation; education and training; and field operations and support activities. In fiscal year 1980 the program was budgeted at about \$13.9 million.

The Habitat Preservation Program Management Document that provides guidance as to goals, objectives, policies, and strategies is not clear as to what role the Biological Services Program should play. For example, the document states that a wide range of clientele and users will be addressed in developing and providing ecological information and technologies. The program is to include the needs of Ecological Services--which performs the Service's consultative role and provides ecological information to other Service programs, other Federal agencies, and State and private interests.

However, the document states that the needs of Ecological Services will receive first consideration in determining priorities for developing and supplying information and technology. It also states that high priority will be placed on identifying and addressing other client and user needs. The document states that Biological Services' activities are not to include routine site-specific surveys and studies required for specific development projects. Further, it states that Biological Services should develop information on a class of problems or information collected on a broad area or regional scale. A project leader and regional team leader in the Office of Biological Services pointed out that this would imply that most of the information development and dissemination would not be for Ecological Services because its role involves making reviews and recommendations on more site-specific actions/activities. The finished Program Management Document, completed subsequent to our review, should clarify the role of the Biological Services Program.

Research activities

The Service also develops and disseminates ecological information and methodologies through its research activities. This

research is oriented more toward fish and wildlife species, whereas the Biological Services Program emphasizes fish and wildlife ecosystems and the habitat of an entire area or region. The Service Management Plan states that the Service shall provide a comprehensive and aggressive national and international fish, wildlife, and habitat resources research program. This program enables the Service to keep abreast of the changing problems in fish and wildlife management. Emerging problems associated with the increasing human impacts on the environment are also monitored. The Service budgeted \$39.5 million for research in fiscal year 1980.

The research program provides support for all other Service programs. As such, research, with the exception of the cooperative research units, is not a separate line item in the Service's budget. Research is funded primarily by other Service programs on the basis of their identified research needs. Some transfer funds are also received from other Federal and State agencies.

Service research personnel do not believe that the research program is effective. The Deputy Associate Director, Research, cited the lack of goals, objectives, policies, and strategies as the reason. The Chief, Office of Planning and Coordination, stated that direction of research was fragmented between various other Service programs and that there was no direction covering the objectives, goals, and strategies of the Service's research for other Federal and State agencies and private interests.

In commenting on our draft report, the Service stated that subsequent to our review it has formalized the Service Management Plan, Program Management Documents, and Important Resource Priorities Systems. These documents are now being used, and while they need continued review and improvement, they will provide improved guidance. In addition, each program has now implemented an information needs system. While the process is not standardized within the Service, it does provide guidance to research efforts.

These Service officials also stated that the research program's effectiveness was hampered because all of the in-house research budget comes from funds transferred from other Service programs. A more balanced approach would be to provide some direct funding to the research group so that it can conduct research independent of that required by other Service programs.

Perceptions of the Service's research role

Among agencies, perceptions vary as to what the role of the Service should be in developing and disseminating fish and wildlife research information, techniques, and methodologies. Federal and State land and water resource development and permitting agencies generally do not view the Service as the focal point for such activities. Generally these agencies are developing biological

information needed in meeting their responsibilities through in-house capabilities or contracting with outside groups such as private consultants and universities.

Various reasons are cited by Federal and State agency personnel as to why their agencies do not view the Service as a focal point for fish and wildlife matters. In their views, the Service:

- Is not attuned to multiple-use and habitat management needs.
- Is perceived as chiefly species oriented, whereas an agency may need habitat-oriented research results.
- Has insufficient funding and lacks adequate direction.
- Does not consider another agency's objectives.
- Is not timely.
- Does not have the necessary expertise.

Views of the Service's role in developing and disseminating research information also differ among Service officials. For example, Ecological Services personnel do not believe they are receiving information needed to carry out their advisory role. They believe that the Biological Services Program efforts are oriented too much toward serving other agencies' needs. On the other hand, Biological Services Program personnel believe that too much effort is spent on meeting in-house needs and, in particular, Ecological Services' needs.

Some agency officials interviewed believed that, with the many efforts by Federal and State agencies and private groups in the development and dissemination of wildlife information, there is a strong potential that overlapping efforts could occur. The Service has also acknowledged that, even within Interior agencies, research programs are carried out with little formal cooperation or coordination. As a result, the Service believes that some duplication of effort does occur and that a full review of the situation might reveal opportunities for greater cooperation.

Conflicts between fish and wildlife resources and man's development activities surely will occur when recommendations and decisions are not made on the basis of timely and sound information, technology, or techniques. As a result, the Service needs to provide leadership by developing an effective national fish and wildlife research program that will meet not only its own needs but also the needs of other Federal and State agencies and the public sector. Such a program would go a long way toward improving the Service's image as a focal point for fish and wildlife matters.

PRIORITY SYSTEM NEEDED TO EFFECTIVELY
UTILIZE LIMITED RESOURCES

Today, the Service is responsible for a wide variety of programs dealing with fish and wildlife, ranging from predator control to sport fish production to environmental protection. Each program is based on different legislation with widely different purposes. For example, the Animal Damage Control Act of 1931 authorized destruction of predator wildlife to protect people and their livelihood while the Endangered Species Act of 1973 authorized conservation of fish and wildlife which are in danger of extinction primarily because of human actions.

The situation is further complicated by the fact that the Service's specific role in interagency decisionmaking often is only implied or insufficiently stated in legislation. For example,

- the Fish and Wildlife Coordination Act does not clearly specify the Service's role for interacting with several agencies and their activities and
- the Service is not named in the Surface Mining Control and Reclamation Act of 1977, but is named in the implementing regulations.

This evolution of involvement in fish and wildlife matters has resulted in the Service having to deal with parts of the total resource base but not with its entirety. Faced with its myriad responsibilities, the Service has problems with its various programs and internal management planning. With current budget restraints added to these problems, the Service needs to establish a priority system that will more effectively utilize its limited funds and staff.

Since much of the Service's effort occurs in the field, it has decentralized authority to field staff. The regional directors are responsible to the Director and the regional staffs are responsible to the regional directors. Area office directors are responsible to the regional directors and the area office staffs are responsible to the area office directors. Even though the regional and area office staffs are organized by program and work closely with the program staff in headquarters and the regional offices, they are not responsible to headquarters or regional program management, respectively.

A 1978 internal report stated that an appropriate description of the Service's program management system would be, "If you don't know where you're going, any road will get you there." The report added that this description could apply to how the Service's program and operational units were all going in different directions without knowing where they hoped to arrive or why they selected their road. Some were going in their particular direction because

specific laws dictated their direction. Others went their way because of opportunistic guidance; others selected their road because the priorities of someone outside the Service pointed in that direction; and still others didn't know which road they were on but seemed to keep busy anyway. No common base was guiding and driving these program and operational units within the Service.

Recognizing the need for central agency planning to unify its mission, the Service started to develop a priority system to utilize available resources in 1979. Three types of planning documents were to be developed:

- Service Management Plan. This document is to provide a perspective on where the Service should be going and why. It is the foundation for planning and managing Service activities; describes the Service's authorities and the sources thereof; provides basic information on the Service and its organizational and program structure; discusses constraints and influences under which the Service operates; and makes assumptions and predictions about trends likely to affect fish, wildlife, and habitat in the future. It forms the basis from which the programs develop their management documents and their annual budget requests.
- Program Management Documents. These 11 documents, one for each Service program, are the primary guides for the program managers. Each is to more clearly define the role and purpose of the program and its relationship to other programs within the Service. It provides guidance through the delineation of goals, objectives, policies, and a strategy to achieve the goals. It is written within a 1- to 5-year time frame to specifically outline what the program manager wants to accomplish, when and where it will be accomplished, and to provide mileposts for accountability.
- Important Resource Priorities. This is a document which identifies important fish and wildlife resources with problems in specific geographic areas in order of relative concern. It gives the Service a necessary prerequisite to identifying where scarce resources (money, personnel, and time) should be directed when it has the authority to redirect activities.

The new planning system seems to have been given much attention and reflects the Service's recognition of the need for central direction and priorities. In addition the Service has formulated a mitigation policy for the purpose of making uniform mitigation recommendations regarding water development projects. However, the system and policy are too new to evaluate their effectiveness.

CONCLUSIONS

The Fish and Wildlife Coordination Act and other environmental acts require agencies to consult with the Service on projects that affect fish and wildlife resources and to recommend measures to prevent or minimize fish and wildlife losses. The Service, however, has not been able to fulfill this requirement.

- The Service is unable to respond to all requests for studies, comments, and recommendations on how to minimize the impact of land and water development projects on fish and wildlife.
- The Service is unable to adequately study or timely recommend the potential impact of development projects on fish and wildlife.
- The Service is unable to routinely follow up on recommendations to Federal agencies on fish and wildlife conservation efforts.

Further, the Service has a research program that is not clearly defined and is fragmented between two groups.

RECOMMENDATIONS

In view of the budget restraints and to better utilize resources, the Secretary of the Interior should:

- Review the Service's operations to determine whether its new priority system is effective in identifying those projects that have the greatest potential adverse impact on fish and wildlife.
- Establish policies, objectives, and guidance for an effective fish and wildlife research program. As part of this effort the Secretary should consolidate the Service's two research programs into one organizational unit.

AGENCY COMMENTS AND OUR EVALUATION

In our draft report we suggested that the Secretary of the Interior determine whether the Fish and Wildlife Service's consultative role can be clarified and strengthened by establishing a priority system that will allow it to identify those projects that have the greatest potential adverse impact on fish and wildlife. As previously mentioned the Service has developed a new priority system and a mitigation policy. However, due to their recent development, their effectiveness cannot be determined at this time. Therefore, we believe the Secretary of the Interior should review the Service's operations to determine whether the new priority system and mitigation policy are effective in identifying those projects that have the greatest potential adverse impact on fish and wildlife.

The Service generally agreed with our recommendation concerning its research efforts. However, it commented that duplication of research activities may sometimes occur but that such instances are very rare and cannot be considered a major problem. Lack of understanding about the Biological Services Program may create the impression that there are more opportunities for duplication than actually occur. The need for better coordination among research activities is widely recognized by the Service; however, while consolidation of all research into one organizational unit, as we have proposed, may well promote greater efficiency and improved products, other potential effects of such an action need to be carefully considered and additional options explored.

CHAPTER 3

THE FISH AND WILDLIFE SERVICE IS EXPERIENCING

DIFFICULTIES MANAGING WILDLIFE REFUGES

AND FISH HATCHERIES

The Service is experiencing difficulties managing the National Wildlife Refuge System and the National Fish Hatchery System. It needs to provide its refuge and hatchery managers with better guidance defining current policy and operating procedures. Since funds needed to maintain refuge and hatchery facilities are not available, the Service also needs to set national priorities that will allow it to operate the systems. A priority system would help the Service to deal effectively with these problems by

- defining the types of refuges and hatcheries that should be developed, operated, and maintained;
- determining which marginal refuges and hatcheries should be eliminated; and
- establishing a rehabilitation priority funding system to improve the condition of refuges and hatcheries.

Presently the Service estimates there is an unfunded backlog of \$650 million in new development and rehabilitation projects. The Service receives about \$40 million annually for these projects.

LIMITED EFFECTIVENESS IN MANAGING WILDLIFE REFUGES

National wildlife refuges are the only extensive federally owned lands managed chiefly for wildlife conservation. Currently, the 90-million-acre system consists of over 400 refuges and numerous waterfowl production areas located in 49 of the 50 States. The National Wildlife Refuge System's (NWRS') mission is to provide, manage, and safeguard a national network of lands and waters sufficient in size, diversity, and location to make available, now and in the future, public benefits that are associated with wildlife over which the Federal Government has responsibility, particularly migratory birds and endangered species.

However, because of lack of direction and funding limitations, the Service is not effectively managing the wildlife refuges. The Service

- has not updated its Wildlife Refuge Manual since the early 1960's,
- does not have waterfowl management plans based on national goals and objectives,

- operates refuges which have little wildlife value,
- is not properly maintaining refuges, and
- permits land uses on some refuges which conflict with wildlife values.

Wildlife Refuge Manual

Refuge managers do not have current policy guidance and operating procedures because the Service has not updated its Wildlife Refuge Manual since it was first issued in the early 1960's. The reason why could not be determined, although the Service always considered the update necessary. It finally initiated a manual revision in April 1979 when the Director wrote:

"The matter of revising the Refuge Manual has been the subject of intense and reoccurring discussion since the early 1960s. In spite of that discussion, little has been accomplished toward actual revision of the document. The need for up-to-date readily available policy guidance and operating procedures for refuge managers has become increasingly acute. Today * * * this need has reached critical proportions."

The manual revision was prompted by the Department of the Interior's Assistant Secretary for Fish and Wildlife and Parks when he responded to a 1979 task force study report with the following direction:

"Management and operation of the NWRS must be guided by clear, concise policy directives from the Service's Washington Office. In this regard, the Service should immediately undertake to upgrade and update its NWRS Field Manual. At the same time, the Service should design and implement a system that will insure that the Field Manual is kept current and that policies are followed."

The need for revising the refuge manual was further described by Service employees. One assistant regional director said that the regions have too much flexibility in interpreting and implementing policies and procedures. After 18 years in one region, he transferred to another region and found totally different policies and procedures in use. A refuge planner in region 6 said that the Service must develop a complete set of field manuals and systems to get guidance and direction to the field. These tools do not now exist. With the confused direction and lack of guidance, the Service has no checks and balances to assure consistent management.

During a June management evaluation, the Service contacted about 150 field managers and supervisors. Some comments made by these personnel were that:

--They most often found policy, positions, and procedures buried in memos, in external letters, in staff notes, or through conversations.

--Employees who had recently joined the Service were often not aware that manuals existed.

--Written and oral procedural guidance was most often informal, piecemeal, and too wordy.

The evaluation concluded that some important Service communications go unread or are misunderstood.

The Service released a draft of the revised refuge manual for public comment in January 1981. Comments have been analyzed, and the Service expects to issue a revised manual this year. In addition, the Service has hired a manual coordinator specifically to maintain the manual in a current status at all times. Internal management planning problems in the Service are discussed in more detail in chapter 2 of this report.

Waterfowl management plans

Individual waterfowl refuges do not have management goals and objectives based on a national flyway ¹/ management plan. This plan, which is supposed to provide guidance to refuge managers, has not been finalized.

The Service has assigned a representative to each of the four administrative flyways--Pacific, Central, Mississippi, and Atlantic. They are responsible, among other things, for developing flyway management plans. According to the Service's field manual, approved flyway management plans will be the basic guides for waterfowl management, and refuge management planning will be guided by information contained in those plans. Despite this procedural statement, the Service has not updated its flyway management plans to provide specific goals and objectives from which individual refuge managers can determine which management objectives to emphasize. The Service helped prepare management plans for each flyway, but these plans were extremely general and provided no specific guidance. Flyway plans were prepared as follows:

- Pacific Flyway, January 1959.
- Central Flyway, June 1958.
- Mississippi Flyway, March 1958.
- Atlantic Flyway, October 1964.

¹/A flyway is a route taken regularly by migratory birds going to and from their breeding grounds.

Interior's Assistant Secretary for Fish and Wildlife and Parks recognized the importance of planning when he recommended in April 1979 that:

"The Service should establish goals and objectives for all units of the NWRS. The management plan for refuges should be consistent with sound wildlife protection and enhancement principles and practices. * * * The plans should be standard in format, provide for periodic revision based upon management and operation evaluation, and include a system to monitor accomplishments against specific objectives and goals. These plans should be compatible with the National Waterfowl Management Plan and the individual Flyway Management Plans."

Service officials have stressed the need for specific individual refuge goals and objectives by pointing out the consequences of not having the flyway plans. An assistant area manager in region 6 stated that individual refuge goals have traditionally been to produce "more" ducks and birds without really knowing what levels were most appropriate. Such specific and appropriate goals cannot be set until management plans are completed on the various flyways.

An assistant regional director said that the absence of flyway plans has contributed to the practice of "shortstopping." Shortstopping is attracting and holding waterfowl by

- planting grains and browse for food,
- attracting waterfowl with decoy birds, and
- circulating water to prevent freezing.

According to the Chief of Game, Mississippi Department of Wildlife Conservation, fewer waterfowl migrate south because of shortstopping. For example, a region 4 area office official said that due to shortstopping in other areas, only about 200 Canada geese now winter on the St. Marks refuge in Florida.

Region 1 officials said that without final flyway plans

- the objectives of the waterfowl refuges are unclear;
- interim objectives, established by refuge and area office personnel, are very subjective;
- refuge managers act autonomously, doing what they believe is right; and
- the region does not know if the refuge lands it has are what is needed.

The Service's Chief of Migratory Bird Management said that the National Flyway Management Plan should be completed in 1981. Individual species flyway plans will require about 5 years to complete. Overall comprehensive flyway plans combining various species management will be even further away. When flyway plans are completed, the Service expects them to provide a step-down process identifying migratory bird needs at the national, flyway, region, area, and refuge levels.

Refuges with little wildlife value

The Service operates refuges on which valuable wildlife habitat has been lost or has deteriorated, has never existed, or has never been developed. Changing water supplies over the years have made some one-time valuable refuges virtually worthless for wildlife. In some cases, the Service has acquired refuges which were never valuable wildlife habitat. Other refuges have never realized their potential because habitat has not been developed. In addition, the Service has a continuing unfunded backlog of rehabilitation projects. The following cases demonstrate one or more of the above conditions.

The 7,600-acre Buffalo Lake refuge in northern Texas was designated a national wildlife refuge by Secretarial order despite serious questions by the region 2 Director as to the advisability of such a decision. The area's value as wildlife habitat has virtually disappeared because the lake has had substantial water only 1 year in 10.

The 8,900-acre Cross Creeks refuge in Northwest Tennessee has been damaged many times by flood waters since the Service acquired the area in 1962. The Service was aware of the Corps of Engineers' perpetual rights to flood as much as 4,500 acres on the refuge but concluded that such flooding would be a minor influence on refuge management. Between 1965 and 1979 the refuge has been flooded 26 times, damaging refuge roads, dikes, public access points, waterfowl food crops, nesting structures, and nature trails. The Service has taken some corrective measures to reduce adverse impacts of flooding; for example, increasing the elevation of dikes and roads and placement of rip-rap.

The Sevilleta refuge, over 220,000 acres of New Mexico desert, was donated to the Service in 1973. The Albuquerque Regional Director, Refuges and Wildlife, said that local Service officials opposed acceptance of the refuge because it has very little wildlife value. The refuge does not meet any program criteria and presently appears worthless according to the region 2 assistant regional director. He stated that operating, maintenance, and development costs have made the refuge an expensive gift with little wildlife value.

We believe that the Service needs to determine which refuges do not contribute to or are not needed for accomplishing the objectives of the National Wildlife Refuge System. Such refuges may

be wasting scarce resources and should be eliminated. These resources could be redirected to other Service programs and refuges that are critical to wildlife requirements but need development or rehabilitation.

Our December 1979 report 1/ on land acquisition questioned the wildlife value of the Conboy Lake National Wildlife Refuge in the State of Washington.

"This project was established to provide wildlife for public benefit and to preserve wildlife. The Fish and Wildlife Service has invested 15 years and \$1.1 million in this 9,600-acre project without obtaining many of the tracts necessary to develop and restore the area as a refuge. The agency has requested additional funds to continue purchasing land. As of October 1978, the agency owned 6,700 acres which were purchased without benefit of an acquisition plan, priorities, or consideration of alternatives.

"We reviewed this refuge in 1968, and our report 2/ questioned whether it should have been established because it was a relatively poor habitat for waterfowl. Of the 10,000 acres approved for acquisition, only 144 contained water and marshes.

"At least 4,000 acres were biologically unessential for waterfowl * * *.

"2/'Opportunities For Improvement In Policies For Acquiring Migratory Water Fowl Refuges,' September 11, 1968, (B-114841)."

In commenting on our draft report, the Service stated that there was overemphasis on waterfowl. It agreed that waterfowl are a priority of the Service and many refuges; however, it believes that other migratory species, endangered or threatened wildlife, and certain marine mammals all constitute a valued and legitimate part of the National Wildlife Refuge System. It also agreed that several refuges have relatively low wildlife value but that implications were involved in divorcing itself of the responsibility of managing a national wildlife refuge.

Refuge facilities not properly maintained

Throughout the refuge system, approximately 26,000 facilities including 3,515 buildings, 13,000 water-pumping and other related facilities, 510 utility systems, 2,070 vehicles, and 600 units of

1/"The Federal Drive To Acquire Private Lands Should Be Reassessed" (CED-80-14, Dec. 14, 1979).

heavy construction equipment are used to achieve program objectives. Other items requiring maintenance include 5,800 miles of road, 450 miles of trails, 7,600 miles of fence, 790 nondomestic well systems, and over 90 million cubic yards of material used for dikes, dams, and levees. The total replacement value of all refuge facilities was estimated by the Service at \$1.5 billion. Despite an extensive program to rehabilitate and restore the refuge system, the Service estimates a continuing unfunded backlog in new development and rehabilitation projects. Further, the Service has not maintained refuge facilities and equipment because of lack of funding.

In the late 1960's the Service believed refuge deterioration had become so critical that many facilities might become inoperable. In 1977 the Congress authorized the \$250 million, 5-year Bicentennial Land Heritage Program to rehabilitate and restore the system. Through fiscal year 1980 the Service estimated that \$155 million in program expenditures will have been made as follows:

- Habitat development or rehabilitation--\$72.9 million.
- Roads (mostly rehabilitation)--\$9.7 million.
- Administrative/maintenance facilities--\$44.7 million.
- Fencing--\$5.2 million.
- Bank stabilization and bulkheads--\$2.4 million.
- Interpretive/recreational facilities--\$6.7 million.
- Surveying, posting, signing, planning--\$2 million.
- Equipment--\$11.3 million.

By the end of fiscal year 1981, the Service expects to have spent \$195 million of Bicentennial Land Heritage Program funds to rehabilitate and restore the refuge system. Despite these expenditures the Service, in a July 1979 report, estimated that 54 percent of the refuge facilities were not being properly maintained and that about \$550 million would be needed to rehabilitate facilities and develop habitat and facilities required to meet the objectives of the National Wildlife Refuge System.

Refuge land uses conflict with wildlife values

Interior Department policy states that any economic or public uses of the refuge system must be compatible with objectives to preserve, protect, and enhance wildlife resources and habitat. However, local pressures to use refuge lands for such benefits as grazing, timber harvesting, and public recreation prevent refuge managers from effectively managing refuges primarily for wildlife.

The 855,000-acre C. M. Russell refuge in Montana is an example of conflicting land uses. This refuge was established primarily to sustain a balanced wildlife population and secondarily to provide forage for domestic livestock. But the Service cannot prevent overgrazing and related habitat destruction on the refuge because the Bureau of Land Management allows greater numbers of livestock to graze on adjacent public lands than is permitted on the refuge, and limited fencing separates the two jurisdictions.

The Service regards livestock grazing as the refuge's primary management problem. The long, narrow refuge has 450 miles of boundary, but only 60 miles is presently fenced. All 63 grazing allotments (permits to private parties allowing livestock grazing) involving refuge lands extend beyond the unfenced refuge boundary to include adjacent public land. Refuge wildlife management objectives are thwarted because the two agencies allow greatly differing numbers of livestock to graze on their respective portions of the allotments.

For example, to promote wildlife and watershed benefits the Service is developing a new plan to decrease the number of livestock allowed on the Service's 11,500-acre portion of the 60,000-acre Antelope Creek allotment. The Bureau permits five times more livestock on its portion of the land than the Service. Thus, without a fence, the Service's plan designed to promote wildlife and watershed benefits on the refuge exists only on paper.

The Cold Springs refuge in Oregon was established on 3,117 acres of Bureau of Reclamation land. In addition to the problem of overgrazing, the Cold Springs refuge is subjected to excessive and incompatible public use. According to the refuge manager, over the past 70 years, unauthorized public use activities such as off-road vehicle use and camping occurred due to a lack of funds and staff to enforce regulations. The effects are obvious: over 30 miles of trails have been created on the refuge by off-road vehicle use, destroying many acres of wildlife habitat and adversely affecting area wildlife.

Also, unauthorized camping has created other problems. Since the refuge has no camping or sanitary facilities, the presence of campers disrupts the habitat and creates litter problems. The Service has attempted to restrict public use, but its efforts have been opposed by local citizens and politicians. Local residents are circulating a petition calling for a public hearing on continued public use at Cold Springs and public sentiment regarding enforcement of regulations prohibiting camping and off-road vehicle use.

The Service agrees that there are areas of the system where uses such as grazing, timber harvest, and agriculture may not be in proper relationship to some of the wildlife habitats on the refuge but stated that instances of this sort are the exception rather than the rule.

LIMITED EFFECTIVENESS IN MANAGING FISH HATCHERIES

The National Fish Hatchery System consists of 88 fish hatcheries and several related facilities operating in 39 States.
System objectives

"* * * are to produce and distribute fish of the size, species, number, strain, and quality to maintain, restore, and enhance the Nation's inland, coastal anadromous and Great Lakes fishery resources for which the Federal Government is responsible by statute, cooperative agreement, judicial directives or other mandates."

The National Fish Hatchery System is not effectively managed because the Service has not been able to establish national priorities for which species and hatcheries should be operated and funding limitations. As a result the Service

--continues to operate hatcheries it considers excess to its needs and

--needs an estimated \$100 million to rehabilitate greatly deteriorated hatcheries.

Hatchery production priorities

Due to continuing funding limitations, the Service has tried to redirect its hatchery system resources. This redirection has emphasized anadromous and Great Lakes fisheries while deemphasizing programs to stock farm ponds and State-owned and -managed waters.

In an attempt to develop a national overview of fishery resource needs, the Service called upon an independent task force. The November 1974 report of the National Task Force for Public Fish Hatchery Policy recommended among other things that:

--With limited exceptions, States assume full responsibility for stocking State waters within their boundaries.

--States assume increased responsibility for public fishing waters on Federal lands, Federal reservoirs, State boundary waters, military reservations, Indian lands, and national parks and monuments.

--The Service continue to remove the Federal Government from private farm pond responsibilities.

--Federal and State governments continue to share responsibility for Pacific salmon and steelhead.

--Federal and State governments continue to share responsibility for Atlantic salmon in Northeastern and New England watersheds.

In trying to identify its priorities, the Service determined that hatcheries associated with stocking farm ponds and State waters would either be redirected to higher priorities or placed on standby and in some cases closed. The Service is assessing each hatchery to determine its potential for meeting Service priorities. The Service acknowledged that such an evaluation should have been made years ago as part of any rational program management. Although the Service has been deficient in evaluating fish resource needs and the true role of hatcheries in meeting those needs, it has made some progress in three areas: lake trout stocking in the Great Lakes, Atlantic salmon, and put-and-take trout stocking.

Region 1 began to reassess its fishery program in 1976 when it became apparent that anadromous species were the region's main responsibility and the most threatened. The Service identified anadromous fish in the Columbia River Basin as its number one national resource problem. Region 1 decided to concentrate on anadromous species and reduce resident species production. Resident species production has been reduced by 78 percent over the past 4 years. Overall, the Service has reduced the supply of fish for State programs by 50 percent since 1970.

In 1973 the Service identified 23 hatcheries that could be declared excess to its needs if stocking farm ponds and State waters were eliminated. The Service still operates 20 of these hatcheries. It is allocating about \$1.2 million annually to operate and maintain the 20 hatcheries which stock farm ponds and State waters. The Service also projected that about \$17 million would be required to rehabilitate the 20 hatcheries.

The Congress has taken numerous steps in recent years to prevent the Service from reducing its stocking of farm ponds and State waters. On September 23, 1976, the Chairman of the House Subcommittee on Fisheries and Wildlife Conservation and the Environment requested that the Secretary of the Interior hold in abeyance any plans to dismantle or diminish the fish hatchery program.

In a report on the 1980 appropriations bill, the Senate Appropriations Committee referred to the Service's plans to modify current fish-stocking allocations for State waters. The committee directed that:

"There should be no diminution from fiscal 1979 in the production or pattern of distribution of the fish hatchery program, and * * * that any changes affecting any State or other cooperator be submitted for Committee review and approval before implementation."

Prior years' House and Senate appropriations bills contained similar restraints.

Conditions of hatcheries

The Service's use of cyclical maintenance funds for fish production purposes (hatching, feeding, rearing, and releasing fish) has hampered maintenance of hatchery facilities. This has occurred because of funding limitations. As a result, many hatcheries are rapidly becoming inoperable. In 1978 the Service indicated that it had instituted an accelerated cyclical maintenance program on its priority hatcheries to assure that facility degradation did not continue. However, the Service's continued use of maintenance funds for fish production has adversely affected maintenance of fish hatcheries.

The Service defines cyclical maintenance as preventative work, usually recurring fairly regularly, which entails such jobs as roof repair, patching raceways, and painting buildings. Minor rehabilitation includes corrective or remedial work needed to keep facilities operable and avoid deterioration, not to exceed \$60,000, including reroofing, topping driveways, replacing heating systems, etc.

Major rehabilitation projects include extensive repairs needed to restore an entire facility to an as-built condition, exceeding \$60,000 in appropriated construction funds and requiring engineering services in most instances. Such needs often result from facility neglect due to insufficient funding for cyclical maintenance and/or minor rehabilitation. Major rehabilitation projects include extensive renovation of production ponds and raceways, replacement of water pipes, etc.

The Service conducted a fish hatchery maintenance survey in 1978 which identified total cyclical maintenance and minor rehabilitation needs of more than \$22 million for fiscal year 1980 and subsequent years. Also, the Service estimated major hatchery rehabilitation needs at \$100 million as of April 1980.

Various hatchery assistant area managers or assistant regional directors provided the following examples:

- The Leadville, Colorado, hatchery has annual production demands of about 167,000 pounds of fish but currently produces about 80,000 pounds because the facilities are falling apart. About \$600,000 would be needed for rehabilitation.
- The Mescalero, New Mexico, hatchery cannot use 33 percent of its raceways because they have been damaged by excessive ground settling. The estimate to repair the raceways is \$610,000.

--The Inks Dam, Texas, hatchery rearing ponds are filled with silt and have eroded banks; leaky, undersized, and rusted pipelines; and an inadequate water-pumping system. About \$5 million would be needed to repair and replace these facilities.

--The Natchitoches, Louisiana, hatchery has a ruptured drainline which, if not repaired, could seriously limit the hatchery's annual production capability of 500,000 striped bass (35 percent of production demand).

In commenting on our draft report, the Service stated that even when agreement is reached internally as to funding proposals, the Department of the Interior and the Office of Management and Budget have not always allowed the requested hatchery increases for operation and maintenance and construction. In fiscal year 1982, for example, the Service requested about \$5 million to operate existing fishery facilities. The request to the Office of Management and Budget for this purpose was \$3.5 million, and the pass-back was \$3.1 million.

CONCLUSIONS

The Service is not effectively managing its wildlife refuge system consisting of over 400 refuges on over 90 million acres of land. The Service does not have an updated refuge manual or current flyway management plans and operates marginal refuges. Further, 54 percent of the refuges are not being adequately operated and maintained, and the Service estimates that it has an unfunded backlog of over \$500 million in new development and rehabilitation projects.

The Service needs to identify refuges which do not contribute to or are not needed for wildlife habitat objectives and provide justification for disposing of them. Likewise, the Service will have a basis for justifying development and rehabilitation needs if it can demonstrate how the expenditures will satisfy specific wildlife habitat needs.

The Service is operating its 88 fish hatcheries in a greatly deteriorated condition because of a lack of maintenance funds. Also, it has not been able to establish and carry out priorities on what types of fish should be produced and what fish hatcheries should be continued. In view of its \$100 million rehabilitation backlog, the Service needs to develop criteria which would provide it with a firm basis for determining which hatcheries are needed and which ones could be eliminated.

RECOMMENDATIONS

We recommend that the Secretary of the Interior direct the Assistant Secretary for Fish and Wildlife and Parks to:

- Update the Service's Wildlife Refuge Manual and flyway management plans.
- Establish priorities on the types of refuges and hatcheries that should be developed, operated, and maintained.
- Determine which marginal refuges and hatcheries could be eliminated, propose a plan to the Senate and House Appropriations Committees setting forth the reasons why they should be discontinued, and seek approval from the committees to close them.
- Review the condition of refuges and hatcheries and establish priorities for a rehabilitation program.

AGENCY COMMENTS AND OUR EVALUATION

The Service generally agreed with our recommendations and indicated that it was working on the problem. It acknowledged that the Service's criteria for retaining and operating fish hatcheries need refinement. It has also identified hatcheries for closure and, in fact, has closed more than 90 since 1940. However, no facilities have been closed since 1977 due to congressional constraints.

In addition, the Service said it is developing a comprehensive approach, as part of the fiscal year 1983 budget, to identify maintenance and rehabilitation needs and establish funding priorities for hatcheries, laboratories, and refuges.

We believe the Service's action to deal with the problem is commendable; however, it should continue with these actions along those lines stated in our recommendations.

CHAPTER 4

THE ANIMAL DAMAGE CONTROL PROGRAM

NEEDS TO BE REASSESSED

The Service conducts an Animal Damage Control Program pursuant to the Animal Damage Control Act of 1931, as amended. The act authorized the Secretary of Agriculture to establish a program to eradicate, suppress, and destroy specific predators, including coyotes. These functions were transferred to the Secretary of the Interior in a 1939 reorganization. Because attitudes and perspectives have changed since 1931, current Service policy regarding predator damage control places more emphasis on controlling predators rather than on eradicating them. The program operates under agreements with State and county governments, livestock associations, Indian tribes, other Federal agencies, universities, private organizations, and individuals. In fiscal year 1981, total budgeted expenditures for predator damage control operations were \$17.6 million. Funding is provided by the Service's appropriations and various parties to the above agreements.

The Animal Damage Control Act is in need of reevaluation and possible revision because

- the Service's current policy and existing attitudes conflict with the act's original intent,
- the current program is unsatisfactory to livestock producers and wildlife interests alike, and
- there is concern that the money spent has not significantly reduced livestock losses caused by predators.

Livestock insurance as an alternative to this program has been considered but was found infeasible. Further study is needed to determine if insurance is viable.

CURRENT POLICIES AND ATTITUDES ON THE ANIMAL DAMAGE CONTROL PROGRAM

The current mission of the Animal Damage Control Program is to "assist in reducing wildlife-caused damage in a manner which minimizes impacts on wildlife resources" rather than to eradicate, suppress, and destroy specific predators. The evolution to this mission statement began in 1940 after Interior assumed responsibility for the program. The animal damage control policy set forth at that time was as follows:

"* * * the management of injurious species of wild animals has been and will continue to be one of control rather than of complete eradication. The Service is not embarked on a general extermination

program; but, with every proper consideration for conservation interests, it has as its objective in this field the adequate local control of injurious mammals, so as to reduce to the minimum the economic losses for which they are responsible."

In May 1977 President Carter transmitted his environmental message to the Congress including a portion dealing with predators:

"The public's interest in wildlife specifically includes predators, which have in the past sometimes been regarded as competitors for livestock or game, leading to their destruction (and in the case of some large predatory species, to their extermination). Because we now realize the importance of the role that predators play in various ecosystems, our goal should be not to destroy them but to reduce the occasion for their conflict with livestock. My administration will continue to support the existing Executive Order which prohibits the routine use of poisons for killing predators on the public lands. If control is necessary, it should focus on the individual predators causing the problem--not the species as a whole."

In November 1979 the Secretary of the Interior affirmed the President's policy and set the following policy goals for the Service's Animal Damage Control Program:

- Ultimately to phase out lethal preventive controls but in the near term, to limit preventive control to specific situations where unacceptably high losses have been documented during the preceding 12 months.
- Emphasize corrective controls, utilizing nonlethal, noncapture methods and focusing on offending animals.
- Encourage appropriate livestock husbandry techniques to reduce predator-livestock conflicts.
- Expand extension services to ranchers.
- Deploy resources at the times and to the places of greatest need.
- Redirect and refocus research to support these goals.

The Secretary also restricted some control techniques then in use because they were highly controversial and might be inconsistent with the President's policy. Accordingly, the Secretary directed that

- denning (locating, removing, and destroying the young coyotes) be eliminated;
- aerial shooting, particularly in winter, be tightly controlled;
- traps be used in the most selective and humane way possible; and
- research or development of the toxic chemical known as Toxicant Compound 1080 be stopped.

PROGRAM IS UNSATISFACTORY
TO LIVESTOCK PRODUCERS AND
WILDLIFE INTERESTS

The Animal Damage Control Program is highly controversial. Western livestock interests, particularly sheep producers, have contended that livestock losses to coyotes increased significantly after toxicants were banned in 1972 and have reached unacceptably high levels. They believed that Interior's current program and policies did not adequately control predators. They wanted additional, effective control methods developed through research and made available for operational use. Livestock interests also sought assurances of a long-term Interior commitment to predator damage control.

Many environmental and wildlife protection groups, individuals, and some Federal agencies disagreed with the livestock interests and believed that the program should concentrate less on killing coyotes as a means of controlling livestock loss and put more emphasis on selective control methods, nonlethal control, and more protection by livestock producers. A principal concern of the groups was that wildlife resources valued by the public were being killed by the Federal Government using public funds in a program which, in their view, had uncertain benefits.

Both sides in the debate agreed that (1) predators on livestock are a serious problem in certain areas of the West, (2) some form of Government predator damage control is preferable to control conducted solely by private groups and individuals, and (3) the current program is unsatisfactory. Two topics repeatedly stressed were damage control on public land and use of toxicants in the control program.

The Senate Environment and Public Works Committee held oversight hearings on the Secretary of the Interior's animal damage control policy in April 1980. The committee chairman said that the Animal Damage Control Act "has been interpreted--and more often misinterpreted--and is in desperate need of a full, intelligent and comprehensive revision."

**PROGRAM EFFECTIVENESS HAS
NOT BEEN DEMONSTRATED**

The Service has not demonstrated that the Animal Damage Control Program is effective as reported by a 1978 Interior Department audit report. The November 1978 audit report by Interior's Office of Inspector General states that:

"The existing operational data in FWS [Fish and Wildlife Service] state offices is inadequate in that it does not accumulate data on total livestock being protected by the ADC [Animal Damage Control] program, total livestock losses due to predation by coyotes, numbers of coyotes (predators) causing damage, and the relation of control methods to the reduction of predator damage. * * * Our overall conclusion is that FWS cannot effectively determine whether the estimated expenditures of \$18 million in fiscal year 1978 had a significant impact on the prevention of livestock losses by predators in areas where ADC methods were utilized."

**LIVESTOCK INSURANCE
AS AN ALTERNATIVE**

In its animal damage control environmental impact statement, the Service found that predator insurance was not a realistic alternative to current animal damage control operations. The Service based its conclusion on two studies made by the Council on Environmental Quality in 1973 and the Department of Agriculture in 1976. Both studies indicated that any feasible insurance would have to include all risks to producers--not just predator damage.

The 1973 predator damage insurance study found that:

- Differentiating incremental losses to predators due to restrictions on predator control measures from normal losses to predators is impossible given the currently available statistical base.
- Isolating predator damages from other livestock losses is a virtually unresolvable administrative problem, so that any insurance program should cover all losses.
- In developing a program of predator insurance, a very broad or mandatory program is desirable to avoid problems of adverse selectivity--that is, only the high-risk ranchers opt to participate.
- Available actuarial information on losses from predators is inadequate.
- Verifying losses to predators, even if the program covers all losses regardless of cause, is a difficult administrative problem.

The study concluded that:

"After a significant investment of staff time from CEQ (the Council on Environmental Quality), Agriculture, and Interior, and consultation with insurance industry, it was concluded that a predator insurance program is not feasible at this time."

The 1976 study, "Insurance Against Predation Losses of Sheep in Western Ranges: An Initial Feasibility Evaluation," found that while lamb and sheep losses to predators appeared only marginally insurable, all-risk coverage would more nearly meet normal insurance criteria. Losses could be determined by counting lambs and sheep at the beginning and end of a given period and comparing totals, accounting for purchases and sales. The study identified factors which would limit either the insurance industry or the Federal Government in any insurance program. Private insurance alone could not provide adequate predator insurance coverage because:

- Sheep and lamb losses from predators are too high.
- Insurance companies as a general rule do not offer insurance on unattended sheep on the open range.
- Sheep producers would not pay the high premiums which would be required.
- Much more research has to be carried out and systematic ways of collecting sheep and lamb loss data must be devised.
- There is a lack of actuarial data when poisons or toxicants are not used for predator control.
- There is often a high risk of poor management to contend with.

The 1976 Department of Agriculture study also identified some basic problems in connection with Federal insurance.

- The Government has had no experience with livestock insurance.
- The number of sheep producers who would participate is unknown.
- There is a question about whether livestock insurance should be voluntary or mandatory.
- It is not known if there will be a sufficient livestock insurance business.

--The long-run picture is clouded because of limited experience under toxicant controls.

--Problems are posed by the generally declining numbers of sheep.

According to a Service planner, nothing has been done to analyze livestock insurance since the 1973 and 1976 studies. The 1976 study mentioned the Federal Crop Insurance Corporation as a candidate for any Federal role. An actuary with the Corporation said that to assess livestock insurance feasibility, many basic, unanswered variables have to be addressed including:

--The basic statistical data on an individual producer's loss experience to set a proper premium rate.

--Defining the type and degree of loss protection that producers would be required to exercise.

The actuary and a Corporation researcher said that the only way to assess a livestock insurance program would be on an experimental basis. An experimental program would require several years to develop necessary loss data before insurance feasibility could be determined.

The Service's Animal Damage Control Division Chief and members of his staff provided the following comments:

--Even with an insurance program, animal damage control will continue either by the Federal Government or by States.

--A critical need under any insurance program is to define the relationship between the insurance and damage control activities; that is, at what point is control increased due to extensive costs to the insurer.

--The appropriate Federal agency for managing animal damage control depends on the perspective from which the problem is regarded: wildlife-oriented, dealing with all wildlife conflicts, or agriculture-oriented, treating damages like any other risk to livestock and crop production.

CONGRESSIONAL ACTION

During a House-Senate conference on December 2, 1980, the conferees agreed not to transfer the Animal Damage Control Program from Interior to Agriculture as proposed by the Senate. The Conference Report on the Fiscal Year 1981 Appropriation for Agriculture, Rural Development, and Related Agencies directs the Secretaries of Agriculture and the Interior cooperatively to analyze the Animal Damage Control Program and determine which agency might best perform all or part of these activities. Up to

\$500,000 is provided to Agriculture's Animal and Plant Health Inspection Service to accomplish the directive.

On May 12, 1981, the Assistant Secretary for Marketing and Transportation Services recommended that the Secretaries of Agriculture and the Interior meet informally to agree on a resolution of the animal damage control situation based on the history of the program and jointly present the results to the Congress. As of June 9, 1981, Agriculture had taken no action.

CONCLUSIONS

The current Animal Damage Control Program administered by the Service is not consistent with the objectives of the 1931 act and is unsatisfactory to livestock producers and wildlife interests. Further, the effectiveness of the program has been questioned by Interior's Office of the Inspector General. Livestock insurance covering losses from predators such as coyotes has been explored but has not been determined to be feasible and needs further study. The Congress has directed the Department of Agriculture in cooperation with Interior to make a study of the Animal Damage Control Program.

RECOMMENDATIONS

Should the Animal Damage Control Programs remain in Interior, we recommend that the Secretary of the Interior direct the Assistant Secretary for Fish and Wildlife and Parks to:

- Develop and propose to the Congress amendments to the Animal Damage Control Act of 1931 that reflect the current objectives of the Animal Damage Control Program to bring predators under control rather than to eradicate, suppress, and destroy them.
- Determine whether the control program should (1) be continued as is or be modified to increase effectiveness and (2) more fully explore alternatives such as livestock insurance to determine if they are viable.

AGENCY COMMENTS

In commenting on our draft report, the Service said our findings on the Animal Damage Control Program are essentially correct. It said that the Secretary of the Interior has ordered a comprehensive review of the program, including the Animal Damage Control Act of 1931.

CHAPTER 5

FISH AND WILDLIFE MANAGEMENT IN PARKS

AND ON PUBLIC LANDS NEEDS MORE ATTENTION

Federal land-managing agencies are not directing enough attention to fish and wildlife in performing their overall missions. Through various laws, the Congress has directed the other primary Federal land-managing agencies--National Park Service, Forest Service, and Bureau of Land Management--to assure protection of fish and wildlife habitat and resources on Federal lands. The Fish and Wildlife Service's management of its land was discussed in previous chapters of this report.

Fish and wildlife matters are not the principal concern of these agencies. The Park Service emphasizes preservation and recreation; the Forest Service traditionally looks after commodity type resources such as timber; and the Bureau stresses resource uses with economic value--livestock grazing and mineral development. Furthermore, fish and wildlife is often not a principal concern even though the Forest Service and the Bureau are supposed to manage lands for multiple uses, including fish and wildlife protection and enhancement.

The budgets of these agencies allocate less than 10 percent to wildlife resource programs. The problem is compounded by differing mandates, authorities, and areas of emphasis that exist between and within these Federal agencies. As a result, wildlife species and/or habitat are being managed differently on adjacent tracts of land merely because man-made jurisdictional boundaries have been drawn; and different management practices result in damage to wildlife or habitat.

NOT ENOUGH ATTENTION GIVEN TO FISH AND WILDLIFE

The following discussion shows how each agency views its role in Federal land management and fish and wildlife management.

National Park Service

The National Park Service traditionally emphasizes preservation and recreation. According to the Park Service's Division Chief for Natural Resources, fish and wildlife management has ranked low among park management objectives for years. Fish and wildlife management in the National Parks is further complicated by (1) the Park Service Superintendents' reluctance to effectively control wildlife population through such means as herd control and (2) by varying interpretations and implementation of the Park Service's policy. According to the Park Service's Division Chief for Natural Resources, more specific guidelines on implementing the

Park Service's wildlife policy are needed. Development of revised guidelines has been established as one of the Division's priorities.

The Park Service policy manual states that parks " * * * will strive to maintain the natural abundance, behavior, diversity, and ecological integrity of native animals * * *." The manual also provides for the protection of native animals except when

- hunting and trapping are permitted by law,
- fishing is permitted by law or is not specifically prohibited,
- control of specific wildlife populations is required for the maintenance of a healthy park ecosystem, or
- removal or control of animals is necessary for human safety and health.

Although park managers are following the broad conservation policy described above, Park Service management perspectives vary, as do specific policies and practices. For example:

- The Assistant Secretary of the Interior for Fish and Wildlife and Parks said the Park Service policy to preserve parks unimpaired by man was appropriate. He further said that a truer Park Service policy statement might be " * * * keep things as natural as possible."
- The Rocky Mountain region's chief scientist said that each region may interpret Park Service policy on a case-by-case basis.

For example, at Mount Rainier National Park, a nonmanagement (strictly preservation) approach has resulted in destruction of park land by overpopulated elk herds. This destruction includes excess grazing, browsing, and trampling of vegetation, the creation of wallows, and trail formation. The region seeks to control animal populations only through public hunting outside the park, even though Park Service policy provides several other options for controlling animal population, including direct animal reduction by Park Service personnel. Park officials have not exercised the direct reduction option because they believe that the public would object to the killings. Consequently, the elk continue to damage habitat.

In another example, at Great Smokey Mountain National Park, habitat for red-cockaded woodpeckers, an endangered species, is being lost. These woodpeckers nest and roost in cavities of live southern pines. Studies indicate that the bird will disappear from the park unless its habitat is enhanced through controlled burning techniques of thinning hardwoods which are overcoming the

pinos. However, Park Service policy permits prescribed burns only to stimulate natural occurrences when conditions permit, not to enhance wildlife habitat.

The broad scope of this problem is indicated by a 1980 Park Service study which found that (1) conditions in 136 parks are having significant negative impacts on mammals and (2) conditions in 71 parks are having significant negative impacts on birds. These negative impacts include damage to habitat such as described above, encroachment of exotic species such as burros, water and air pollution, and external activities adjacent to parks such as land development and timber harvesting. The Park Service's Chief, Natural Resources Division, said that unless improvements are made within 2 years, many fish and wildlife resources will be lost.

Forest Service

Largely because of timber demands, the Forest Service has traditionally emphasized timber production in its land management practices. Forest management activities with the greatest impact on wildlife habitat are timber harvesting and timber-related road construction. Under the multiple-use concept, the Forest Service is also responsible for administering its lands for outdoor recreation, range, and watershed.

Policies of Forest Service regions state that wildlife resources will be considered in their land management activities. For example:

- The Rocky Mountain region has established a policy that at least one-third of the timber harvested be a result of wildlife management activities.
- The Pacific Northwest region coordinates its resource management plans with the Oregon and Washington Interagency Wildlife Committee, which consists of representatives from the Bureau of Land Management, Fish and Wildlife Service, Soil Conservation Service, Oregon Fish and Wildlife Agency, and Washington Department of Game.
- According to the Southwestern regional forester, every timber sale in his region is designed to consider wildlife habitat needs and improvements such as selective cutting and not cutting too close to streams. Further, the region is involved in a research project to determine how timber sales can be designed to benefit all resources.

However, Forest Service efforts to protect wildlife are often overshadowed by its emphasis on timber production. Wildlife management in forests requires manipulation of tree cover, a measure usually too expensive to be undertaken solely for the sake of wildlife.

For the most part wildlife management is still a byproduct of commodity activities. Habitat and wildlife personnel direct their work toward mitigating adverse impacts from other resource uses, such as timber sales, recreation developments, and grazing permits. For example, during fiscal years 1976 through 1981, the Forest Service allocated about 8 percent or less of its annual protection and management budget to fish and wildlife programs. Although the allocation increased from about 3 percent in 1976 to about 8 percent in 1981, showing that more emphasis is being given to fish and wildlife, we believe that this is still a small proportion of its overall budget.

The following examples illustrate timber production and recreation projects that have destroyed salmon spawning areas, damaged deer wintering areas, and caused loss of other wildlife habitat.

At one time the South Fork Salmon River accounted for 30 percent of the salmon spawning nests in Idaho. However, the number of Chinook salmon nests has decreased from about 3,000 in the 1950's to 1,000 in the mid-1960's to only 230 during the period from 1974 to 1977. This decrease was caused by, among other things, road construction and logging, which allowed erosion to increase soil sedimentation in the river.

Construction of a 10-mile timber access road in White Mountain National Forest also harmed wildlife habitat. Gravel for the road came from the Bowen Brook gravel pit, which had been part of the Bowen Brook deeryard, an area that provided food and shelter for deer. A wildlife biologist warned forest engineers of the probable damage to the deer habitat if the pit were dug; however, due to the high cost of using an alternative pit, the forest supervisor proceeded with the Bowen Brook project. The deer consequently moved to another area, where they compete with other deer for limited food and shelter.

Forest Service efforts to promote recreational opportunities have also damaged wildlife habitat. In emphasizing recreation, the Forest Service has given only secondary consideration to wildlife, and as a result, elk migration routes have been lost, herds have diminished, and habitat has been lost.

One example of this occurred in the Mount Hood Meadows ski area, where the Forest Service expanded the area despite an environmental impact statement which clearly indicated that expansion would harm wildlife habitat. A Forest Service regional biologist noted that the following adverse impacts predicted in the environmental impact statement actually did occur after expansion.

- Large mammals, including elk, wolverines, and cougars, were displaced.

- The amount and/or quality of snag habitat, thermal cover, and hiding cover was decreased.

--Wildlife diversity and natural ecosystem dynamics were lost.

During the 1960's, a series of developments in the Dillon, Colorado, area, including the Dillon Reservoir, the town of Dillon, and the Keystone ski area, contributed to the diminishing number of elk. All occurred within a few miles of one another, and part of the development took place in the Arapaho National Forest. Before issuing a special use permit for Keystone, the Forest Service considered the potential impact of only the ski area on the herd and its migration route. However, it did not take into account the combined impacts of the reservoir and growth of the town of Dillon near the ski area. This development interfered with the existing elk migration route, and the herd has diminished in size.

The Forest Service's emphasis on timber resources was highlighted in our reports on its planning efforts 1/ and the difficulties it is having achieving congressional expectations of producing the natural resources the Nation needs while protecting the environment and conserving sufficient resources for the future. 2/

Bureau of Land Management

The Bureau of Land Management, the Nation's largest single Federal land manager, has traditionally stressed resource uses with economic value such as livestock grazing and mineral development. According to the Bureau's Division of Wildlife Chief, its basic responsibility regarding wildlife is to manage habitat rather than manage wildlife species.

Generally, the Bureau directs wildlife funds and staff to completing court-ordered environmental impact statements for grazing and coal development and development of plans for managing public lands. It does little, if any, identification of needed wildlife improvement projects and little on-the-ground wildlife work. We discussed this situation in an earlier report. 2/

The objective of the Bureau's wildlife habitat management is to maintain or change habitat in order to attain predetermined resource management goals. It seeks to do this on Bureau-administered lands through a four-phase system: habitat inventory and analysis, habitat management plan, management implementation,

1/"The National Forests--Better Planning Needed To Improve Resource Management" (CED-78-133, July 12, 1978).

2/"Changes in Public Land Management Required To Achieve Congressional Expectations" (CED-80-82, July 16, 1980).

and management evaluation. The habitat management program is divided into two categories--direct and indirect. The direct phase consists of intensive habitat management in areas where wildlife is a primary resource value. The Bureau develops intensive wildlife management activity plans, called habitat management plans, for these areas.

The indirect program consists of wildlife support provided as part of the Bureau's various other resource management programs--range, mining, and recreation, for example--and consideration of wildlife input in the multiple-use process.

Although the Bureau has made improvements in its wildlife management programs, more needs to be done. As shown below, in fiscal year 1980, the Bureau managed about three-fourths of its land (excluding Alaska) without a plan for using it as wildlife habitat.

Summary of Wildlife Habitat Management Status
Fiscal Year 1980

	<u>Acres</u>	<u>Miles</u>	<u>Percent</u>
Terrestrial, riparian, and wetland habitat:			
Estimated total (note a)	171,442,000	-	100.0
Under management	39,077,000	-	22.7
In need of management	119,397,199	-	69.6
Perennial streams:			
Estimated total (note b)	-	20,805	100.0
Under management	-	2,293	11.0
In need of management	-	16,815	80.8
Surface of reservoirs:			
Estimated total (note a)	250,000	-	100.0
Under management	25,000	-	18.0
In need of management	161,154	-	64.6

a/Sum of habitat under management and habitat in need of management may not equal total habitat, due to habitat considered static or lack of information to place habitat in either category.

b/Sum of habitat under management and habitat in need of management is less than total habitat, apparently due to an error in the Bureau's report.

Further indication of the Bureau's attitude toward wildlife is provided by its Assistant Director for Renewable Resources who told us that, "In the end the wildlife program will lose if it doesn't bend to commodity production. The best wildlife can do is not impede commodity oriented production."

While the Bureau is giving little attention to protecting wildlife habitat, the condition of the land has deteriorated through overuse. According to the Range Condition Report prepared for the Senate Committee on Appropriations (Jan. 1975), 83 percent of the rangeland is unsatisfactory for grazing because of deterioration in the soil and plant cover. Comparable statistics are not available for the condition of the range for wildlife purposes.

Despite progress toward multiple-use management, a relatively larger share of available staff and funds continues to be devoted to traditional resources, leaving relatively little for resources which have been neglected in the past. The table below shows how fish and wildlife funding allocations have ranged from 8 to 10 percent of the Bureau's appropriations between fiscal years 1976 and 1979.

Bureau of Land Management Allocation of
Direct Resource Management Staff and Funds

Resource program	Percentages of totals							
	FY 1976		FY 1977		FY 1978		FY 1979	
	Staff	Funds	Staff	Funds	Staff	Funds	Staff	Funds
Range	35	35	37	36	37	37	35	29
Minerals (note a)	30	25	30	27	29	29	26	27
Recreation	12	12	11	11	11	10	15	14
Wildlife	8	9	9	10	8	9	10	10
Soil/Air/Water	8	12	7	10	7	9	7	14
Forestry (note b)	<u>7</u>	<u>7</u>	<u>6</u>	<u>6</u>	<u>8</u>	<u>6</u>	<u>7</u>	<u>6</u>
Total	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>

a/Includes energy and nonenergy minerals.

b/Excludes Oregon and California grant lands which contain about 90 percent of the Bureau's commercial timber. Management of these lands is funded out of timber sale receipts.

To further illustrate how little funding has been allocated to fish and wildlife, the following table shows that during fiscal years 1977, 1978, and 1979, 5 percent or less of the total resource funds in Wyoming were devoted to wildlife resources.

Funds Allocated

<u>Fiscal year</u>	<u>Total resources</u>	<u>Fish and wildlife</u>	<u>Percent of total</u>
1977	\$13,415,000	\$478,600	4
1978	14,228,100	383,200	3
1979	18,133,000	987,900	5

According to the Chief of Biological Resources, Wyoming State office, it is difficult to maintain wildlife resources with these limited funds, let alone plan and implement developmental and improvement projects. Also, funds available for needed wildlife resource activities have been further limited by the use of fish and wildlife funds for the preparation of environmental impact statements mandated by the courts for resources such as range and coal.

For example, funds have not been provided to improve badly deteriorating range conditions on about 500,000 acres of land bordering the Bighorn National Forest in Wyoming, which is critical elk wintering habitat. Elk compete directly with domestic livestock for forage, water, and space and the area has been overgrazed. The key to identifying needed improvement and development projects for both domestic livestock and the elk herds is the collection of critical inventory data and the preparation of a habitat management plan.

The already limited wildlife funds for the needed inventory and planning, however, have been shifted to complete the priority range environmental impact statements required by the court as a result of the National Resources Defense Counsel lawsuit. Thus, the Bureau has not had the available funds to develop the habitat management plan, which would identify the activities necessary to mitigate the deteriorating condition of the critical elk winter range. This example was discussed in more detail in our report of July 16, 1980 ("Changes in Public Land Management Required To Achieve Congressional Expectations," CED-80-82).

DIFFERENT MANAGEMENT PRACTICES ON ADJACENT FEDERAL LANDS RESULT IN DAMAGE TO WILDLIFE

Because land-managing agencies have differing missions, authorities, and areas of emphasis, wildlife species and/or habitat may be managed differently on adjacent tracts of land merely because a man-made jurisdictional boundary has been drawn; and these differing management practices may result in damage to wildlife or habitat, or inefficient use of funds by one or more agencies. Management of the southern Yellowstone elk herd is an example of this type of problem. Four separate administrative units with

different objectives and policies--Yellowstone and Grand Teton National Parks, the National Elk Refuge, and Bridger-Teton National Forest--manage the land that is used by this single elk herd.

The herd, numbering between 14,000 and 16,000 animals, spends 99 percent of its time on Federal lands in southwestern Wyoming. During the summer approximately 40 percent of the herd ranges on Yellowstone National Park, 35 percent ranges on Grand Teton National Park, and 25 percent ranges on the Bridger-Teton National Forest. During the winter the herd ranges in the Jackson Valley with over one-half of the herd staying on the National Elk Refuge and adjacent lands. The basic management objectives of each entity are as follows:

- Yellowstone National Park practices nonmanagement (strict preservation) of the herd to maintain a naturally operating ecosystem.
- Grand Teton National Park would like to adopt a nonmanagement policy; however, it is legislatively mandated to conduct an elk reduction program (hunt) to maintain herd size at an adequate level. Two hunts are held annually--a normal hunt and an intensive hunt. The normal hunt is relatively unsuccessful, while the intensive hunt is basically a slaughter. But neither hunt ensures that the herd is maintained at an adequate level.
- The National Elk Refuge has established a refuge maximum carrying capacity of 7,500 elk and an annual reduction of between 3,500 and 3,800. Neither goal has been met, thus increasing the burden on the refuge for supplemental winter feeding. Also, the increased herd size strains the available winter and summer range in other areas.
- Bridger-Teton National Forest emphasizes elk habitat management but also considers timber-harvesting requirements and energy development demands consistent with the multiple-use concept.

Thus, different management objectives and practices have resulted in a single herd of elk being managed differently as it migrates across Federal lands. These management objectives have resulted in an increasing herd which now taxes the winter range and supplemental feeding programs at the National Elk Refuge and may ultimately decimate the range areas along the elk migration route.

We found other instances where differing management objectives and practices adversely affect wildlife resources and management efficiency. For example:

- Currently, the elk in Mount Rainier National Park in Washington number about 1,500 animals, well above the 600 animals that the Park Service estimated could be handled

without major park damage. The animals spend their summers on Park Service land and winter on Forest Service lands. Despite the existence of a committee comprised of representatives from the involved agencies--National Park Service, Forest Service, and the Washington State Department of Game--these entities manage their habitat/species with different objectives. As a result, (1) the herd is increasing, (2) the number of elk harvested outside the park is well below the number needed to reduce the population, and (3) elk are destroying the park's upland meadow vegetation.

--During the past 20 years the prairie dog population on Federal land in southwestern South Dakota has exploded, devastating the forage available both for domestic livestock and other wildlife. Four separate administrative units--Badlands National Park, Buffalo Gap National Grassland (Forest Service), Wind Cave National Park, and Pineridge Indian Reservation--manage the land inhabited by the prairie dogs. Buffalo Gap is the only unit pursuing an active prairie dog control program at this time. However, the program's long-term efficiency and effectiveness are questionable because the grassland's Federal neighbors are not controlling the animals which continue to migrate onto the grassland.

One solution to this problem would be for the Fish and Wildlife Service to take the lead role in those instances where wildlife species and/or habitat are being managed by more than one agency. This would include reducing wildlife populations where necessary for effective wildlife management on Forest Service, Park Service, or Bureau of Land Management land.

CONCLUSIONS

Federal land-managing agencies need to give more attention to conserving fish and wildlife. Fish and wildlife matters are not the principal concern of these agencies--the Park Service emphasizes preservation and recreation; the Forest Service traditionally looks after commodity-type resources such as timber; and the Bureau stresses resource uses with economic value such as livestock grazing and mineral and energy development. Although the Forest Service and the Bureau are responsible for managing lands for multiple uses, including fish and wildlife protection and enhancement, fish and wildlife management has not received adequate attention.

The problem is compounded by the differing mandates, authorities, and areas of emphasis that exist between and within these Federal agencies. As a result, wildlife species and/or habitat are being managed differently on adjacent tracts of land merely because man-made jurisdictional boundaries have been drawn; and different management practices result in damage to wildlife or habitat.

RECOMMENDATIONS

We recommend that the Secretaries of Agriculture and the Interior direct the Bureau of Land Management, the Park Service, and the Forest Service to give greater emphasis to conserving and managing fish and wildlife. The Secretaries should also enter into a cooperative agreement which will give the Fish and Wildlife Service the authority to decide how animals should be managed by other agencies in those instances where wildlife species migrate across boundaries and are being managed by more than one Federal agency. Such an agreement should also include the States where appropriate.

AGENCY COMMENTS AND OUR EVALUATION

We received mixed reactions from the various agencies on our recommendations. We continue to believe, however, that the Fish and Wildlife Service needs to take the lead role in deciding how animals should be managed by other agencies. Each agency's comments are discussed below.

Fish and Wildlife Service

The Service is in general agreement with our findings and recommendations. However, it said it may be difficult to develop management plans which would be acceptable to all parties and which would provide the necessary authority to implement the management strategy for managing wildlife species that migrate across boundaries of other Federal agencies' land.

The Service suggested additional recommendations which it thought would help solve the problems of fish and wildlife management among Federal agencies. (See app. V.) We agree with its first suggestion that cooperative planning, which would require Interior and Agriculture to develop a joint fish and wildlife policy statement, should provide more national direction for fish and wildlife management. However, since the other suggestions covered programs that were not included in our review, we were not able to evaluate them.

Bureau of Land Management

The Bureau did not agree with the second part of our recommendation. It questioned whether the Fish and Wildlife Service had the authority to manage animals moving across agency boundaries. The Bureau believed the cooperative agreements would be an intrusion into State authority for management of resident wildlife and that they ignore the fact that land-managing agencies are charged by the Congress to manage and safeguard wildlife resources. It also believed that they ignore many positive, cooperative efforts of the Bureau, the Forest Service, and the States.

While the Service does not want the legal authority to manage animals moving across agency boundaries, the Secretaries of the

Interior and Agriculture certainly have the authority to enter into cooperative agreements as we recommend. Furthermore, the problems described in our report have existed for years and past cooperative efforts have not been successful. Therefore, we continue to believe that our recommendations would help solve this problem.

National Park Service

The Park Service was given the opportunity to present comments on the report, but its comments were not received in time to include in the final report.

Forest Service

Overall, the Forest Service believed it has made more effort than our report shows, but it did acknowledge that more needs to be done with fish and wildlife management on its lands. It believes that our recommendation would not be necessary if the Secretaries of the Interior and Agriculture would utilize existing cooperative agreements with the States and give the Fish and Wildlife Service the opportunity to consult with the States to determine how animals should be managed. We disagree with this suggestion because the arrangement would be nothing more than what is happening now.

CHAPTER 6

FISH AND WILDLIFE MANAGEMENT IN ALASKA

Alaska may be America's last opportunity to preserve a large, relatively unspoiled ecosystem and hence its fish and wildlife. Alaska's uniqueness centers around its millions of acres of federally owned land that is virtual wilderness. In the entire United States, no other landmass holds such vast areas of unpopulated and undeveloped land. Some species of wildlife that are endangered in the contiguous United States, such as the bald eagle, abound in their natural environment in Alaska. Other species, like the polar bear, exist nowhere else in the United States. A lifestyle that relies on fish and game for subsistence still thrives in Alaska. For visitors, Alaska presents a chance to see the unspoiled.

On December 2, 1980, the President signed the Alaska lands bill--Alaska National Interest Lands Conservation Act--which sets aside 104 million acres in Alaska for protection. The act more than doubles the size of the National Park System by adding 43.6 million acres of some of the most beautiful scenery and wildlife habitat in North America. The act established 53.7 million acres of wildlife refuges, added 3.4 million acres to the National Forest System, designated 2.2 million acres as national conservation and recreation areas, and set aside 1.4 million acres as wild and scenic rivers. The Congress also designated 56.8 million acres of new and existing conservation units as wilderness, a category that virtually prohibits commercial development and motor vehicle travel.

In addition to the new management responsibilities, Federal agencies are faced with traditional problems as managers of wildlife resources and habitat. These traditional problems, such as limited resources, conflicting agency goals and objectives, and lack of data, create a challenge for Federal agencies in managing Federal lands in Alaska.

UNIQUENESS OF ALASKA

Alaska's size and the extent of its Federal ownership make it unique among all the States. The type of habitat, types of wildlife species, and low human population density in Alaska add to this uniqueness. For example, according to the latest available population data, Alaska has a ratio of about one person per 1,000 acres. The State of New York has a ratio of about one person per 1.7 acres. Over 40 percent of Alaska's population lives in the Greater Anchorage area.

Alaska's land and water surface is about 375 million acres. As shown on the next page, most of this land is in the Federal domain, and the major land/habitat responsibility rests in four agencies: the Bureau of Land Management, the National Park Service, the Forest Service, and the Fish and Wildlife Service.

Land Ownership in Alaska

<u>Agency</u>	<u>Acres under agency's responsibility</u> (millions)	<u>Percent</u>
Bureau of Land Management	161	43.0
National Park Service	51	14.0
Forest Service	22	6.0
Fish and Wildlife Service	74	20.0
Military	2	.2
State of Alaska	<u>a/ 46</u>	12.0
Privately owned	<u>b/ 18</u>	<u>4.8</u>
Total	<u>375</u>	<u>100.0</u>

a/Includes land tentatively approved.

b/Includes land conveyed to Alaska Natives under the Alaska Natives Claim Settlement Act.

For some agencies, Alaska contains over half of all the land for which they have management responsibility. This unique situation makes Alaska different and at the same time provides each agency with the opportunity to manage almost total ecosystems in an undeveloped environment.

Species of wildlife exist in Alaska that are threatened or endangered in other areas. For example, a unique combination of habitat and undeveloped land permits eagles to thrive, whereas they are endangered in the contiguous 48 States.

The number of animals in Alaska is another unique feature. Alaska has herds of caribou numbering in the tens of thousands, walrus by the hundreds of thousands, and migratory birds by the millions. Although the numbers are large, density per square mile may be low in certain areas. Many of these species are migratory and travel thousands of miles in and out of the State.

It has been estimated by the chief of the subsistence section of the Alaska Department of Fish and Game and an attorney for the Alaska Federation of Natives that more than 50,000 Alaska residents rely on wildlife resources for at least part of their nutritional

needs. This use of wildlife is called subsistence and varies from place to place depending upon the availability of species and alternate food sources.

Fishing provides most of the residents' subsistence needs, but whales, caribou, moose, and birds are also important. A Fish and Wildlife Service supervisor of waterfowl investigations told us that the impact of subsistence hunting on wildlife was probably not significant for most species. However, in the case of some migratory waterfowl, such as the white-fronted goose, the harvest is having a significant impact on the bird population.

Subsistence is also complicated by its cultural aspects. Native peoples have been hunting and fishing for centuries. These activities have, therefore, become as valuable to the Native lifestyle as they are to nutritional needs. A State wildlife biologist told us that one study indicated the cost per pound of hunting waterfowl was almost twice as much as purchasing similar products from local markets. This is just one indication of the value placed on the harvest by the subsistence user.

Subsistence has created a real dilemma for the Federal agencies--trying to preserve a cultural lifestyle and at the same time protect the resources. For example, the Marine Mammal Protection Act provides for the continued subsistence use of marine mammals by Alaska Natives without providing harvest limits. One provision mentions that the use shall not be "wasteful." The Service and the U.S. attorney's office are concerned about problems of enforcement since the Service is not sure what constitutes wasteful use and the U.S. attorney's office has not been requested to officially make such a determination.

Abuse and waste may have occurred because decapitated walrus have been found on beaches. These animals were probably killed for their ivory tusks. Allegations have been made that polar bears have been harvested just to sell the furs, which also raises the question of abuse. The irony of the situation is that there seem to be so many walrus now that the uncontrolled harvests are not causing any significant concern about species survival.

NEW FEDERAL RESPONSIBILITIES

In 1971 the Alaska Native Claims Settlement Act was enacted to settle Native claims by compensation of lands and moneys. The act provided for about 44 million acres of land for Alaska Natives through land selections by Native corporations created by the act. The act also provided for the withdrawal of up to 80 million acres for study as future parks, refuges, forests, and wilderness areas. Section 17(d)(2) required congressional action to make the final determination on these lands. This was done in the Alaska National Interest Lands Conservation Act signed December 2, 1980.

One new responsibility placed on the Park Service by enactment of the Alaska lands bill is to manage the land and allow

subsistence hunting in the newly created parks and additions to existing national parks. However, the State Department of Fish and Game opposes restricting hunting to subsistence use unless the nature of the threatened resource calls for such restrictions. With such opposition by the primary fish and wildlife management agency in the State, there could be practical as well as biological problems. The chief of the subsistence section, Alaska Department of Fish and Game, stated that the Park Service would probably not be able to control subsistence activities on Federal lands. Also, such controls could result in adjacent lands being overhunted since sports hunters could no longer hunt in new parks.

Prior to statehood, the Territory of Alaska's fish and game was managed by the Federal Government. After statehood, the State Government took over much of this responsibility. However, the Federal role has been gradually returning. For example, laws and treaties now require Federal agencies to be responsible for certain wildlife, such as marine mammals and endangered species. This shift of the Federal role has created several problems between the State and Federal Governments. The State sees it as an encroachment on its responsibility and an element in the States rights issue. The State also believes that the Federal Government is not able to handle these responsibilities, and therefore the wildlife suffers.

The Alaska Department of Fish and Game's role in management is due, in part, to the amount of resources available to the agencies. The table on the next page gives some indication of the relative ability of the various Federal and State agencies to manage the wildlife resources.

Financial Resources of Agencies in Alaska
(Fiscal Year 1980)

<u>Agency</u>	<u>Fish and wildlife management dollars</u>	<u>Total budget</u>	<u>Percent related to fish and wildlife management</u>
Alaska Department of Fish and Game (note a)	\$44,800,000	\$ 47,000,000	95
Bureau of Land Management	425,000	b/26,249,000	2
Fish and Wildlife Service	13,299,928	14,000,000	95
National Park Service	c/100,000	7,450,000	1
Forest Service	<u>5,966,000</u>	<u>55,525,000</u>	11
Total	<u>\$64,590,928</u>	<u>\$150,224,000</u>	

a/Includes law enforcement from the Alaska Department of Public Safety.

b/Does not include \$7.4 million for firefighting responsibilities.

c/Does not include \$125,000 for employees who perform other duties.

Another comparison shows that the Alaska Department of Fish and Game has almost 70 percent of all statewide financial resources devoted to fish and wildlife management in Alaska. The department manages fish and game on all land in Alaska except where prohibited by Federal law or regulations. The Fish and Wildlife Service, by comparison, has only about 21 percent, while others have less than 1 percent. The financial resources available show the need for State help in management. The Commissioner, Alaska Department of Fish and Game, and Park Service and Fish and Wildlife Service officials in Alaska expressed the belief that State and Federal cooperation is necessary to properly manage the State's fish and wildlife resources.

TRADITIONAL PROBLEMS

Traditional problems associated with the management of fish and wildlife are also present in Alaska. For the present they have had less significance than in other areas because of the large undeveloped land areas. As development continues and habitat is destroyed, many of the same problems that occurred in other States may occur in Alaska.

Conflicting goals and objectives

One potential problem is conflicting agency goals and objectives. So far, these differences do not seem to have caused any significant problems because of three factors:

- Several agencies have joined together to form the Alaska Land Managers Cooperative Task Force. This is a Federal-State-Native agency group formed in June 1978 to foster better cooperation among the various landowners or interested resource managers. This task force also has subcommittees, one of which has been given the task of finding ways to make compatible the natural resource data developed by each agency. The Fish and Wildlife Service chairs this Natural Resource Information Management Subcommittee.
- The Alaska Department of Fish and Game has fish and game management responsibility on all land in Alaska except where prohibited by Federal law or regulation. The department sets bag limits, seasons, and establishes regulations.
- Finally, and perhaps the most important factor, Alaska's landmasses are huge and largely undeveloped. Hence, certain areas are able to sustain large fish and wildlife resources with little or no management. However, the Service believes this is debatable and may no longer be true.

New landownership patterns will probably complicate or increase the potential problems associated with adjacent landowners with different management philosophies; however, this problem is still speculative.

Basic lack of information

One of the traditional problems that may be worse for Alaska than other States is a basic lack of knowledge about the State's habitat and wildlife. Alaska, by its very size and undeveloped nature, has many unknowns. The attorney for the Alaska Federation of Natives, an Alaska Native Corporation, said that Alaska has more in common with the Third World than with other States, given its large undeveloped land mass and significant rural community that relies on subsistence. Agencies sometimes have to wait for weeks or months before being able to do ground surveys because of logistics, transportation problems, and bad weather conditions.

All of these factors contribute to the basic lack of knowledge about Alaska and its resources. For example, we found cases of agencies being surprised by what wildlife resources were found after an onsite visit. One case involved a fishing vessel that grounded near St. Paul in the Pribilof Islands in November 1979. This ship was full of diesel oil fuel that could be hazardous to

wildlife if spilled. The Service representative on the cleanup team said that he was surprised to find so many fur seals still in the area at the time of the accident in November because he thought they would have migrated to warmer areas. His prior knowledge of the area had been gained during the summer months. He assumed that there would be about 1,500 seals left in November. Instead, almost 10,000 were still there. Although fur seals in the Pribilof Islands are the responsibility of the National Marine Fisheries Service, the Fish and Wildlife Service representative had conducted surveys on the Islands for other purposes and was aware of the seal population during the summer months. We believe the example illustrates our point about a basic lack of information on wildlife in Alaska.

A comprehensive data base for Alaska's habitat and wildlife will require substantial money, time, and effort to complete. The Service is presently working on a wetlands inventory for the State but estimates that it will take years to complete and cost over \$6 million. Even then, the site-specific data might require on-site inspection before any activity could be approved. Funding for such undertakings will present the various agencies with additional problems.

Research in Alaska

Fish and wildlife research projects in Alaska are not coordinated through any one central agency or organization. This could lead to duplication of efforts and inefficiency; however, because the Alaska research community is so small and there is much interaction among the researchers, the general consensus seems to be that duplication is not a serious problem.

Generally, land-managing agency officials agree that an information referral clearinghouse is needed. These officials said that having one point instead of several could save time and costs and maybe prevent possible duplication of research or information-gathering efforts.

The Arctic Environmental Information Data Center was established to meet some of these needs. The center is affiliated with the University of Alaska and provides a central clearinghouse service along with research for various public and private agencies. The center accomplishes its role through the use of several computer data bases, a library, and in some cases, applied research. A chief research biologist for the Park Service, however, said that the Park Service probably could fill this role better than the center. However, the Chief of Biological Resources, Bureau of Land Management, Alaska, and the Chief of Natural Resources, National Park Service, Alaska, were somewhat skeptical about the ability of any one agency or center to accomplish the task involved. As an example of the size of this task, a Park Service chief research biologist told us that his agency is compiling a bibliography on bears that has over 10,000 references.

Also, the Fish and Wildlife Service has had in place since 1979 the Alaska Information Management Service, in its Anchorage office, which is much better equipped to supply current data and information of the type and in the format appropriate for land management decisions. In addition to conventional alphanumeric information processing capability, the information management service represents the state of the art in geographic data processing. The service, which is operated on a cooperative basis with other Federal and State management agencies in Alaska, maintains large computerized files of mapped information on the distribution of various natural resources and other geographic and thematic data which can be readily manipulated and displayed for use during the resource management decision process.

Insufficient resources and personnel

Another traditional problem in fish and wildlife management that may be worse for Alaska than other States is the availability of resources to do the job. Combining every dollar directed to fish and wildlife management for each agency listed in the table on page 58 would equal only about 18 cents per acre in Alaska. An even more dramatic conclusion can be drawn from the table below.

Personnel Resources of Agencies in Alaska (Fiscal Year 1980)

<u>Agency</u>	<u>Fish and Wildlife personnel</u>	<u>Total personnel</u>	<u>Percent related to fish and wildlife management</u>
Alaska Department of Fish and Game	<u>a/771</u>	<u>a/811</u>	95
Bureau of Land Management	11	569	2
Fish and Wildlife Service	165	181	91
National Park Service	3	93	3
Forest Service	<u>40</u>	<u>739</u>	5
Total	<u>990</u>	<u>2,393</u>	

a/Includes law enforcement personnel from the Alaska Department of Public Safety.

Considering Alaska's 365 million acres of land and the 990 persons shown in the above table, there are approximately 370,000 acres for every person assigned fish and wildlife management duties in the State.

Actual incidents such as the "duck wars" show the inability of at least one Federal agency, the Fish and Wildlife Service, to cope with management responsibilities for such large land areas. In this case, a few Native hunters harvested waterfowl (ducks) during the spring of 1961. The Service has over the years cited individuals for shooting ducks out of season. However, in protest, over 100 local residents went out and killed waterfowl and surrendered to the Service. The Service has not cited any Natives since this incident. In 1978 the Department of the Interior sent telegrams to Native leaders that, in effect, permitted the spring duck hunts to continue even though they were in violation of international treaties. At the time of our review, the Service and the Department of State were working to have the treaties changed and make the spring hunts legal in Alaska. Once the hunts are legalized, the Service believes they can be regulated and controlled.

In commenting on our draft report, the Service stated that since the "duck wars," which occurred more than 20 years ago, relations with the Natives have improved considerably. The cited inability to cope with management responsibilities for such large land areas could be placed in a more accurate context. In reality, the inability to change treaties and enabling legislation to reflect the real life situation is affecting our ability to manage migratory birds in a manner commensurate with their needs. The simple act of expending more money per acre to manage these lands may mitigate some of the impact but will not by itself solve problems which result from tangled or nonexistent legal authorities.

In addition to the huge acreage per employee, many areas, such as the new conservation units, do not have adequate facilities to maintain an effective presence in the area. The new Gates of the Arctic National Park and Preserve is an example--with an area of over about 8 million acres, it does not have a headquarters site to house its staff. The Arctic National Wildlife Refuge, with an area of over 18 million acres, has the same problem. In such cases, an area can be managed only on a seasonal or temporary basis or from some distant headquarters. This could create a problem in the future once these lands are developed and opened to the public.

Outside pressures

Alaska is not isolated completely from the outside world because of its climate or location. Modern aircraft make Alaska accessible to thousands of people throughout the world. Over 500,000 people visited Alaska in 1977, and national publications and newspapers glamorize Alaska as America's last frontier. The Nation has also focused attention on Alaska's potential reserves

of minerals and energy including oil, gas, coal, and hydroelectric power. All of these things have made the outside world aware of Alaska and its resources.

Development pressures are probably one of the most significant potential problems facing Alaska. Exploratory drilling on the National Petroleum Reserve in Alaska could result in commercial oil deposits being found and developed in the near future. Presently, the Prudhoe Bay oil field is supplying some U.S. petroleum needs, and geologists estimate that Alaska and particularly its offshore coastal zone could contain additional undiscovered deposits of oil and gas. This potential for future energy development, coupled with energy shortages, has focused attention on Alaska and its resources. Whether or not people realize it, exploration and development activity will destroy some habitat.

Environmentalists also are concerned about Alaska. They see Alaska as perhaps the last chance to preserve an essentially unspoiled wilderness. Environmentalists have focused social and political pressure on the State and Federal Governments to protect the environment and hence the habitat for wildlife. In one case, a legal action prevented the State from conducting aerial wolf hunts on Federal lands.

Also, environmentalists have brought potential dangers to wildlife to the attention of the public and the agencies. This happened recently when questions were raised about the effect on whales of tour boat activities at Glacier Bay National Park. The Park Service had been concerned with this situation for several years and had done research, issued regulations, and been involved in consultation with several agencies and universities for the purpose of improving its knowledge of whales. After the question was raised by the environmentalists, the Park Service requested the National Marine Fisheries Service to review the situation.

Alaska Natives also represent a force with substantial interests in fish and wildlife. Subsistence hunting is part of the cultural heritage of thousands of Alaska Natives. Natives have had substantial influence on proposed legislation to protect their traditional subsistence rights. Natives also could exercise their proprietary control of their selected lands.

Finally, there are individuals within the State who want more States rights. If successful in their efforts, they could have significant impacts on Alaska's fish and wildlife habitat.

CONCLUSIONS

Alaska represents a unique opportunity and a challenge for the United States to preserve a relatively unspoiled habitat. At the same time its vast natural resources are needed to provide the American people with basic needs and to improve their lives. This challenge to strike a balance between these two demands will require cooperation among all parties--Federal, State, Native, and private.

AGENCY LOCATIONS VISITEDFish and Wildlife Service

<u>Region</u>	<u>Area offices</u>	<u>Field stations</u>
1--Portland, Oreg.	Boise, Idaho Olympia, Wash. Sacramento, Calif.	Ecological Services Offices Boise, Idaho Olympia, Wash. Portland, Oreg. Sacramento, Calif. National Wildlife Refuges Columbia, Wash. Conboy Lake, Wash. Malheur, Oreg. Sacramento, Calif. Stillwater, Nev. Toppenish, Wash. Umatilla, Oreg. National Fish Hatcheries Lahanton, Nev. Leavenworth, Wash. Little White Salmon, Wash. Spring Creek, Wash.
2--Albuquerque, N. Mex.	Austin, Tex. Phoenix, Ariz.	Ecological Services Offices Galveston, Tex. Phoenix, Ariz. National Wildlife Refuges Bosque Del Apache, N. Mex. Havasu, Calif. National Fish Hatchery Willow Beach, Nev. Animal Damage Control Texas State--San Antonio, Tex.
4--Atlanta, Ga.	Ashville, N.C. Jackson, Miss. Jacksonville, Fla.	National Fish Hatchery Chattahoochee Forest, Ga.
5--Newton Corner, Maine		

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<u>Region</u>	<u>Area offices</u>	<u>Field stations</u>
6--Denver, Colo.	Billings, Mont. Bismark, N. Dak. Pierre, S. Dak. Salt Lake City, Utah	National Wildlife Refuges Arrowood, N. Dak. Bear River, Utah C. M. Russell, Mont. Fort Niobrara, Nebr. National Elk Refuge, Wyo. Valentine, Nebr. Animal Damage Control South Dakota State--Pierre, S. Dak. Utah State--Salt Lake City, Utah Ecological Services Office Fairbanks, Ak. National Wildlife Refuge Clarence Rhode, Ak.
7--Anchorage, Ak.		

Other

Patuxent Wildlife
Research Center,
Laurel, Md.

Bureau of Land Management

<u>State office</u>	<u>District</u>
Anchorage, Ak.	
Phoenix, Ariz.	
Denver, Colo.	
Portland, Oreg.	Burns, Oreg. Vale, Oreg.
Boise, Idaho	
Sacramento, Calif.	
Santa Fe, N. Mex.	

APPENDIX I

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 Forest Service

<u>Region</u>	<u>National forest</u>	<u>Ranger district</u>
2--Denver, Colo.	Bridger-Teton	Buffalo Gap National Grassland, S. Dak.
3--Albuquerque, N. Mex.	Santa Fe	
5--San Francisco, Calif.		
6--Portland, Oreg.	Gifford Pinchot	
8--Atlanta, Ga.		
10--Juneau, Ak.	Chugach Tongass	

 National Park Service

<u>Region</u>	<u>National parks or monuments</u>
Pacific Northwest-- Seattle, Wash. (note a)	Mt. Rainier, Wash.
Rocky Mountain-- Lakewood, Colo.	Badlands, S. Dak. Grand Teton, Wyo. Wind Cave, S. Dak. Yellowstone, Mont.
Southeast-- Atlanta, Ga.	
Southwest-- Santa Fe, N. Mex.	Bandelier, N. Mex.
Western-- San Francisco, Calif.	Grand Canyon, Ariz.

a/Also includes the Anchorage Area Office, Anchorage, Alaska.

Corps of Engineers

<u>Division</u>	<u>District</u>
North Pacific-- Portland, Oreg.	Portland, Oreg. Seattle, Wash. Walla Walla, Wash.
South Atlantic-- Atlanta, Ga.	
South Pacific-- San Francisco, Calif.	San Francisco, Calif. Sacramento, Calif.
Southwest-- Dallas, Tex.	Ft. Worth, Tex. Galveston, Tex.

Water and Power Resources Service

<u>Division</u>	<u>District</u>
Lower Colorado-- Boulder City, Nev.	Central Arizona Project office-- Boulder City, Nev.
Mid Pacific-- Sacramento, Calif.	
Pacific Northwest-- Boise, Idaho	

APPENDIX II

APPENDIX II

FISH AND WILDLIFE SERVICE WORKLOAD INFORMATIONFOR FISCAL YEAR 1978

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Environmental contaminant evaluation:				
Ecological emergencies	45	27	18	60.0
Field evaluation	69	45	24	65.2
Service pesticide use	770	770	-	100.0
Technical assistance	668	578	90	86.5
Oil and hazardous spills	444	377	67	84.9
Environmental impact statement review	<u>714</u>	<u>597</u>	<u>117</u>	<u>83.6</u>
Total	<u>2,710</u>	<u>2,394</u>	<u>316</u>	88.3
Land and water resources development:				
Environmental impact statement review	753	516	237	68.5
Ecological emergencies	464	36	428	7.8
Corps of Engineers maintenance dredging	305	187	118	61.3
Soil Conservation Service small watershed projects	392	209	183	53.3

APPENDIX II

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<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Soil Conservation Service resource conservation projects	170	49	121	28.8
Evaluation of recommendation	313	25	288	8.0
Other projects	301	171	130	56.8
Nuclear Regulatory Commission permits	76	42	34	55.3
Federal Energy Regulatory Commission licenses	231	124	107	53.7
Section 9 permit (note a)	102	71	31	69.6
Sections 10 (note a), 404 (note b), and 103 (note c) permits	16,912	13,551	3,361	80.1
Letters of permission	353	280	73	79.3
Section 402 permit (note b)	11,531	1,042	10,489	9.0
General permits	229	100	129	43.7
Sections 102 (note c) and 405 (note b) permits	15	5	10	33.3
Office of Territories permit	-	-	-	-

APPENDIX II

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<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Transmission corridors permit	138	76	62	55.1
Department of Transportation permit	1,390	1,206	184	86.8
Suspected illegal activity	1,334	1,045	289	78.3
Other permits or licenses	3,167	551	2,616	17.4
Soil Conservation Service basin/sub-basin (type IV) plans	167	108	59	64.7
Coastal Zone Management plans	305	189	116	62.0
Sections 303 and 304 plans (note b)	76	33	43	43.4
Section 208 plans (note b)	216	90	126	41.7
State section 494 plan (note b)	3	3	-	100.0
Preservation of unique areas plans	145	60	85	41.4
Other land plans	1,196	561	635	46.9
Coal (State/private) plans	<u>103</u>	<u>47</u>	<u>56</u>	<u>45.6</u>
Total	<u>40,387</u>	<u>20,377</u>	<u>20,010</u>	50.5

APPENDIX II

APPENDIX II

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Biological service (energy extraction):				
Oil shale	-	-	-	-
Outer continental shelf	817	805	12	98.5
Coal (Federal)	179	167	12	93.3
Geothermal	<u>171</u>	<u>115</u>	<u>56</u>	<u>67.3</u>
Total	<u>1,167</u>	<u>1,087</u>	<u>80</u>	93.1
Total	<u>44,264</u>	<u>23,858</u>	<u>20,406</u>	53.9

a/Sections 9 and 10 of 1899 Rivers and Harbors Act (33 U.S.C. 403 et seq.).

b/Sections 402, 404, and 405 of Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.).

c/Sections 102 and 103 of Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1431 et seq.).

FISH AND WILDLIFE SERVICE WORKLOAD INFORMATIONFOR FISCAL YEAR 1979

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Environmental contaminant evaluation:				
Ecological emergencies	38	24	14	63.2
Field evaluation	75	52	23	69.3
Service pesticide use	850	849	1	99.9
Technical assistance	658	543	115	82.5
Oil and hazardous spills	482	287	195	59.5
Environmental impact statement review	<u>20</u>	<u>9</u>	<u>11</u>	<u>45.0</u>
Total	<u>2,123</u>	<u>1,764</u>	<u>359</u>	83.1
Land and water resources development:				
Environmental impact statement review	1,645	1,185	460	72.0
Ecological emergencies	610	41	569	6.7
Corps of Engineers maintenance dredging	328	237	91	72.3
Soil Conservation Service small watershed project	487	283	204	58.1

APPENDIX III

APPENDIX III

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Soil Conservation Service resource conservation projects	131	33	98	25.2
Evaluation of recommendation	396	34	362	8.6
Other projects	330	179	151	54.2
Nuclear Regulatory Commission permits	67	48	19	71.6
Federal Energy Regulatory Commission licenses	274	188	86	68.6
Section 9 permit (note a)	109	78	31	71.6
Sections 10 (note a), 404 (note b), and 103 (note c) permits	18,243	15,459	2,784	84.7
Letters of permission	459	310	149	67.5
Section 402 permit (note b)	13,768	1,052	12,716	7.6
General permits	315	148	167	47.0
Sections 102 (note c) and 405 (note b) permits	37	14	23	37.8
Office of Territories permit	10	-	10	-

APPENDIX III

APPENDIX III

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Transmission corridors permit	405	372	33	91.9
Department of Transportation permit	1,649	1,389	260	84.2
Suspected illegal activity	1,595	1,256	339	78.8
Other permits or licenses	3,334	595	2,739	17.9
Soil Conservation Service basin/sub-basin (type IV) plans	17	8	9	47.1
Coastal Zone Management plans	568	256	312	45.1
Sections 303 and 304 plans (note b)	125	62	63	49.6
Section 206 plans (note b)	291	137	154	47.1
State section 404 plan (note b)	59	6	53	10.2
Preservation of unique areas plans	118	43	75	36.4
Other land plans	1,453	816	637	56.2
Coal (State/private) plans	<u>187</u>	<u>48</u>	<u>139</u>	<u>25.7</u>
Total	<u>47,010</u>	<u>24,277</u>	<u>22,733</u>	51.6

APPENDIX III

APPENDIX III

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Biological service (energy extraction):				
Oil shale	-	-	-	-
Outer continental shelf	824	808	16	98.1
Coal (Federal)	151	135	16	89.4
Geothermal	<u>233</u>	<u>135</u>	<u>98</u>	<u>57.9</u>
Total	<u>1,208</u>	<u>1,078</u>	<u>130</u>	89.2
Total	<u>50,341</u>	<u>27,119</u>	<u>23,222</u>	53.9

a/Sections 9 and 10 of 1899 Rivers and Harbors Act (33 U.S.C. 403 et seq.).

b/Sections 402, 404, and 405 of Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.).

c/Sections 102 and 103 of Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1431 et seq.).

APPENDIX IV

APPENDIX IV

FISH AND WILDLIFE SERVICE WORKLOAD INFORMATIONFOR FISCAL YEAR 1980 (ESTIMATED)

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Environmental contami- nant evaluation:				
Ecological emergencies	34	18	16	52.9
Field evaluation	102	66	36	64.7
Service pesticide use	1,136	1,134	2	99.8
Technical assistance	666	521	145	78.2
Oil and hazardous spills	454	294	160	64.8
Environmental impact statement review	<u>676</u>	<u>557</u>	<u>119</u>	<u>82.4</u>
Total	<u>3,068</u>	<u>2,590</u>	<u>478</u>	84.4
Land and water resources development:				
Environmental impact statement review	810	460	350	56.8
Ecological emergencies	633	55	578	8.7
Corps of Engineers maintenance dredging	269	195	74	72.5
Soil Conservation Service small watershed project	441	263	178	59.6

APPENDIX IV

APPENDIX IV

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Soil Conservation Service resource conservation projects	118	36	82	30.5
Evaluation of recommendation	411	29	382	7.1
Other projects	324	192	132	59.3
Nuclear Regulatory Commission permits	37	26	11	70.3
Federal Energy Regulatory Commission licenses	360	256	104	71.1
Section 9 permit (note a)	78	65	13	83.3
Sections 10 (note a), 404 (note b), and 103 (note c) permits	16,566	11,136	5,430	67.2
Letters of permission	310	225	85	72.6
Section 402 permit (note b)	12,078	823	11,255	6.8
General permits	205	85	120	41.5
Sections 102 (note c) and 405 (note b) permits	12	2	10	16.7
Office of Territories permit	-	-	-	-

APPENDIX IV

APPENDIX IV

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Transmission corridors permit	325	249	76	76.6
Department of Transportation permit	1,148	1,000	148	87.1
Suspected illegal activity	1,447	989	458	68.4
Other permits or licenses	3,387	695	2,692	20.5
Soil Conservation Service basin/sub-basin (type IV) plans	12	7	5	58.3
Coastal Zone Management plans	415	192	223	46.3
Sections 303 and 304 plans (note b)	99	39	60	39.4
Section 208 plans (note b)	207	88	119	42.5
State section 404 plan (note b)	3	3	-	100.0
Preservation of unique areas plans	55	28	27	50.9
Other land plans	1,517	930	587	61.3
Coal (State/private) plans	<u>220</u>	<u>71</u>	<u>149</u>	<u>32.3</u>
Total	<u>41,487</u>	<u>18,139</u>	<u>23,348</u>	43.7

APPENDIX IV

APPENDIX IV

<u>Workload area</u>	<u>Total requests received</u>	<u>Number completed</u>	<u>Number not completed</u>	<u>Percent completed</u>
Biological service (energy extraction):				
Oil shale	60	50	10	83.3
Outer continental shelf	1,214	1,141	73	94.0
Coal (Federal)	818	496	322	60.6
Geothermal	<u>343</u>	<u>124</u>	<u>219</u>	<u>36.2</u>
Total	<u>2,435</u>	<u>1,811</u>	<u>624</u>	<u>74.4</u>
Total	<u>46,990</u>	<u>22,540</u>	<u>24,450</u>	48.0

a/Sections 9 and 10 of 1899 Rivers and Harbors Act (33 U.S.C. 403 et seq.).

b/Sections of the Clean Water Act of 1977 and the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et seq. and 1251 et seq.).

c/Sections 102 and 103 of Marine Protection, Research, and Sanctuaries Act of 1972 (33 U.S.C. 1431 et seq.).



United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

JUL 1, 1981

Mr. Henry Eschwege
Director
Community and Economic Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Eschwege:

Thank you for the opportunity to review the draft of a proposed report: "National Direction Required for Effective Management of America's Fish and Wildlife." The GAO report accurately pinpoints a number of areas of concern to the Service. Clearly we are in general agreement that lack of resources (funding and personnel) have hampered the Service's consultation role and its ability in some cases to manage refuges and hatcheries effectively.

The Service is particularly sensitive to the fact that lack of staff and funds have sometimes precluded responding to requests for studies, comments, and recommendations on how to minimize the impact of land and water development projects on fish and wildlife. While we are also in agreement with most of the findings contained in the report, we believe that many problems are well on their way to being solved. More specifically, the "lag time" between the start of the GAO investigation and final publication of the report sometimes precludes recognition of significant progress in key areas. For example, the Wildlife Refuge Manual is undergoing complete revision; public comments on early drafts have already been analyzed, and the revised manual should be issued this year. It also should be stated that concrete steps are being taken to review and improve procedures for establishing priorities appropriate to individual program areas. The procedures for establishing Important Resource Problems (IRPs) are illustrative of one of several priority systems now being used in the Service. Additionally, the Service Management Plan and the Program Management Documents provide us with vastly improved guidance for establishing priorities and serve as a blueprint for fulfilling the mission and goals of the Service. (See GAO note 2, p. 81.)

The report's findings with respect to the Service's Animal Damage Control (ADC) Program are both accurate and welcome. We share a common concern about the future of the ADC Program. As indicated in the enclosed comments, the Secretary of the Interior has ordered a comprehensive review of the Program which parallels the recommendations made by the GAO. Efforts also are underway to improve cooperation with the states and with the major land management agencies who share responsibility for wildlife that migrate across Federal lands. One example of a long-standing, successful venture is the Jackson Hole Cooperative Elk Studies Group, first organized in 1958 for the benefit of the southern Yellowstone elk herd.

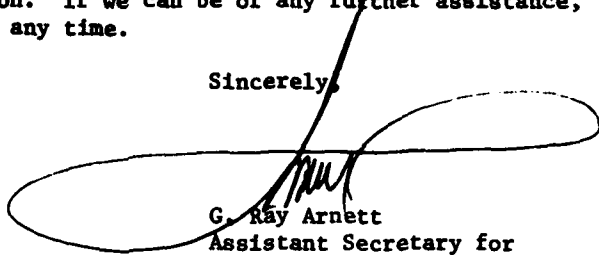
APPENDIX V

APPENDIX V

The Service wholeheartedly concurs with the GAO observation that cooperation between the Alaska Department of Fish and Game, the Fish and Wildlife Service, and other Federal agencies is critical to the success of our role as stewards of Alaska's immense but fragile fish and wildlife resources. Lack of data about these resources continues to be a problem; however, we feel that projects such as the Anchorage-based Alaska Information Management Service constitute an important step in the right direction.

Again, we appreciate the opportunity to review and comment on the draft version of the GAO report. Many of the problems identified in the report are still with us; nonetheless, we feel that considerable progress has been made in seeking solutions and resolving conflicts since the work on this report was initiated. Comments on the various chapters of the draft report are enclosed for your consideration. If we can be of any further assistance, please contact this office at any time.

Sincerely,



G. Ray Arnett
Assistant Secretary for
Fish and Wildlife and Parks

Enclosures

GAO NOTES:

1. The Service's comments resulted in several revisions in the final report. In two instances noted in these comments we disagreed with the Service for those reasons noted. (See p. 86.)
2. The Service's concern has been recognized throughout the body of the report by incorporating those accomplishments achieved during that time.

CHAPTER 1General Comments

Chapter 1 provides a useful, well-written overview of the purpose and scope of the report; a concise historical perspective of the role played by the Fish and Wildlife Service, Forest Service, Bureau of Land Management, and the Park Service; and a description of the methodology used in the report.

While not a criticism of the proposed report, the methodology used in the GAO Audit--not only in the collection of data, but also in the analysis and presentation of the findings--could be strengthened in several areas. First, the "lag time" between the onset of data collection and completion of the final report should be mentioned as a possible limiting factor in the discussion of results. One example where "lag time" may have influenced the stated results is discussed in greater detail in the comments on Chapter 3, i.e., the fact that the National Wildlife Refuge Manual has been fully revised and substantial public comment obtained on the draft chapters since the GAO study was initiated.

Second, it would have been useful to see a matrix listing the numbers and positions held by the various interviewees at each agency or non-governmental organization. Without such information it is sometimes difficult to tell whether the expressed opinions were those of a majority of people interviewed, or the reaction of only one or two individuals.

Third, the examples given in the report are helpful to the extent that they illustrate the conclusions drawn from the interviews; however, it also would have been useful to know of specific instances when the hypotheses of the investigators were not supported. Not only would this provide a better indication of the pervasiveness of the adverse conditions which were described (e.g., the percentage of refuges surveyed which have little wildlife value), but such comparisons also might yield valuable information leading to the development of criteria for evaluating the effectiveness of refuge or hatchery management.

It would be helpful if mention could be made in this section that the Service is cognizant of most of the problems mentioned throughout the document and has made some significant strides in seeking solutions.

Specific CommentsPage 2, first paragraph, second sentence

After "wildlife management" add: "as its enumerated powers were expanded by Congressional legislation."

Page 3, first paragraph

Two other examples that might be included in the list are: "Marine Mammal Protection Act of 1972" and the "Alaska National Interest Lands Conservation Act of 1980."

GAO NOTE: Throughout this section, page and other references have been changed to reflect the final version.

Page 8, third paragraph

It seems appropriate to mention here, as the report does elsewhere, that lack of resources (people and funding) were the primary cause of "not responding to consultative requests," etc.

CHAPTER 2Specific CommentsPage 9, second paragraph

This summary paragraph is missing the key point that accounts for the Service's inability to respond to all requests for consultation. The report itself states this key point on Page 18, paragraph 2, and it should include this key point in the summary paragraph on page 9. Page 18, paragraph 2, states that the "specific role of the Service in interagency decisionmaking often is only implied or insufficiently stated in legislation. . .it is not surprising that the Service has problems with its various programs and internal management planning."

Page 11, fourth paragraph, second sentence

The statement is made that "The proposed mitigation measures (for the Granite Reef Aqueduct Project) were much more extensive than needed to protect wildlife and habitat." Differences of opinion over needed mitigation are routine on major projects.

Page 12, first paragraph

This paragraph mixes the words "projects" and "permits." Extensions of time are more likely to occur in conjunction with permit processing, but usually in response to the need to develop additional information. Moreover, extensions of time are not routinely requested because of lack of personnel. Such requests are even less common in investigations and reporting on major Federal projects. When a time extension does occur, it may be the result of construction agency schedule changes and not necessarily Service delay.

Page 12, fourth paragraph

This paragraph fails to consider typical problems such as inadequate information provided with the public notice, and other valid reasons for delays in permit processing which do not necessarily reflect on the efficiency of the Service.

Page 14, first paragraph

The burden for follow-up should rest with the construction agency and not with the Service. Any work of this kind done by the Service is only to provide an assessment of the effectiveness of Service recommendations. There should be clarification of what is meant by "Follow Up."

Page 14, fourth paragraph

The report's conclusion that ". . .the Service's research program is not clearly defined. . ." is based in part on the failure to make a definite distinction between the Biological Service Program and the Research Program. When this distinction is made, the Service Research Program is generally recognized for its leadership and expertise.

Page 15, first paragraph

As defined in its Program Management Document, the Biological Services Program's role is far more than the GAO report states here (. . ."continual upgrading of an objective and analytical information base. . ."). It includes information collection, synthesis, and analysis; development of methodologies and data storage, retrieval, and analytical technologies; information transfer, dissemination, management and evaluation; education and training; and field operations and support activities.

The last statement in this paragraph is inaccurate. The Biological Services Program was budgeted \$13,875,000 for 1980, not \$17,700,000.

Page 15, first paragraph

The report indicates that ". . .The Habitat Preservation Program Management Document (PMD). . .discloses that it is not clear as to what role the Biological Services Program should play." In fact, the guidance that the PMD provides the Biological Services Program and the Office of Biological Services is discussed at several locations in the PMD (p. 4, 6, 17, 19 et seq.) and seems to rather clearly describe that role.

Page 16, second paragraph

At the time of the interview, the Service had not formalized the Service Management Plan (SMP), Program Management Documents (PMDs), or the Important Resource Priorities (IRP) system, and in general, goals and objectives were lacking. These documents are now being used as guidance items, and while they need continued review and improvement, they are providing guidance. In addition, each program has now implemented an information needs system. While the process is not standardized within the Service, it does provide guidance to Research.

Page 16, fifth paragraph

This discussion or the perception of other agencies of the Service's research role also does not distinguish between the roles of the Biological Services Program and the Research Program. The response by other Federal and state agency personnel indicates that they are not aware of the amount of habitat research the Service does nor of the expertise that is available within the organization. Those agencies do view the Service's Research Program as a focal point for some types of fish and wildlife research.

Page 17, first paragraph

After citing the reasons why other Federal and state agency personnel do not view the Service as a focal point for research, the report basically ignores them. They should be addressed and discussed in the report. Again, the distinction between the Biological Services Program and Research is important.

Page 20, The Conclusion Section

The Conclusion Section does not recognize the distinction between Federal project proposals of the Corps of Engineers and the Bureau of Reclamation versus those of other land and water development projects. The Service has Transfer Fund Agreements with both of these agencies. Our capability to evaluate and provide recommendations on such projects is dependent upon annual agreements reached during negotiations for funding. However, by committing our time and effort to these Federal projects it further inhibits our responsiveness to other ongoing actions.

Page 20, Recommendations

The lack of staff and funding resources is not addressed in the Recommendations, but is addressed in the Cover Summary and in other locations throughout the report.

First Recommendation

The Service does have a priority system. The SMP, PMDs, IRPs, and Program Advice policies have been in use for some time, several years in some instances. The Service also has a recently formulated Mitigation Policy for the purpose of making uniform mitigation recommendations regarding water development projects. All of these efforts plus other guidance such as the Navigable Waters Handbook should be considered in the findings of the final report.

Second Recommendation

Duplication of research activities may sometimes occur, but such instances are very rare and cannot be considered a major problem. Lack of understanding about the BSP may create the impression that there is more opportunity for duplications than actually occurs. The need for better coordination among research activities is widely recognized by the Service; however, while consolidation of all research into one organizational unit may well promote greater efficiency and improved products as proposed by GAO, other potential effects of such an action need to be carefully considered and additional options explored.

CHAPTER 3General Comments on Refuge Management

It is difficult to accept the premise that the Service has been unsuccessful in managing the National Wildlife Refuge System and the National Fish Hatchery System. Indeed, the Service has achieved a high degree of success for the most part; management difficulties are primarily due to a lack of adequate resources (funding and personnel) which the report generally acknowledges.

The comments that follow deal first with refuge management, and then with fish hatchery management.

Page 22, first paragraph

A "priority system" can be defined in several different ways. The budget process in effect is a prioritizing technique; refuges with lower outputs are not funded at the levels of refuges with greater outputs. A few low output refuges are maintained essentially in "reserve" status, as "satellites" to other refuges, etc. Furthermore, the basic legislative mandates of the Service also provide a form of "prioritizing," e.g., the Endangered Species Act, the Migratory Bird Treaty Act, Refuge Recreation Act, etc. Therefore, it is not accurate to say the Service does not have a priority system.

[GAO COMMENT: Although we agree that these basic legislative mandates and the budgeting process provide a form of prioritizing, each was passed at a different time and dealt with specific subjects; collectively these priorities may not be the most appropriate. Therefore we still believe an overall priority system would help the Service deal more effectively with this problem in managing refuges and hatcheries.]

Page 22, last paragraph

We agree with the concept of evaluating refuges to determine which ones might be excess to our needs. However, the Service considers all refuge lands to have wildlife values. Of course, some have lower wildlife values than others. Therefore, Service lands should not be surplus until the possibilities of exchange for lands with higher wildlife values have been reviewed. We also agree with the concept of a rehabilitation priority system. The Service initiated a formalized ranking system for major rehabilitation and new development needs on refuges at the outset of the Bicentennial Land Heritage Program in 1977.

[GAO COMMENT: Although a formalized ranking system for major rehabilitation and new development needs on refuges was initiated at the outset of the Bicentennial Land Heritage Program in 1977, the Service has recognized the need for additional rehabilitation priorities and is presently developing a more comprehensive approach (as part of the fiscal year 1983 budget) to identify maintenance and rehabilitation and to establish funding priorities for hatcheries, laboratories, and refuges.]

Page 23, first paragraph

The Service has recognized the problem with the wildlife refuge manual and is updating it. A draft has been released and public comments have been analyzed; the Service expects to issue a revised manual this year. In addition, the Service has hired a manual coordinator specifically to maintain the manual in a "current" status at all times. The manual will provide excellent guidance to every project leader and support staffs within the NWRS.

Page 24, second paragraph

A national waterfowl management plan has been completed, but it is still in draft form. This document provides goals and objectives for the management of migratory waterfowl.

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Although flyway plans based on a national waterfowl management plan are not finalized at this time, individual refuges do have specific management goals. Adjustments will likely be required after the flyway plans are completed.

Page 25, second paragraph

We disagree with the statement which indicates that "the absence of flyway plans has resulted in the practice of 'shortstopping.'" Shortstopping has occurred in many areas throughout the nation, and although proper planning and implementation of the flyway plans would focus on shortstopping problems, the problems are substantially greater than simply "having a completed plan." Shortstopping is a complex issue. The influence of weather, agricultural practices and patterns, impounding of water in arid regions, and waterfowl population changes all have a bearing on the issue.

The statement that only 200 ducks winter on the St. Marks National Wildlife Refuge is in error as is the statement that, at one time 80,000 ducks migrated to the area. The figure of 200 is probably in reference to Canada geese, since this is approximately the level of recent wintering populations. Duck populations were more than 150,000 in 1977 and in excess of 90,000 in 1978.

Page 26, first paragraph

The narrative leaves the impression that refuges without waterfowl outputs (or low waterfowl outputs) are not serving their intended purposes. Although there may be refuges in the NWRS that have relatively low wildlife outputs, this must be viewed in the context of habitat capability (e.g., a desert ecosystem should not be expected to match the productivity of a coastal marsh; rather it must be rated on the basis of what it is producing relative to what should be produced by the habitat that is present).

There is a general overemphasis on waterfowl in the report, particularly in this section. It is true that waterfowl are a priority of the FWS and many refuges. However, the refuge system should not be evaluated solely on that basis. Other migratory species, endangered or threatened wildlife, certain marine mammals, etc., all constitute a valued and legitimate part of the National Wildlife Refuge System. Any evaluation of the system should give proper attention to other species.

There is little doubt that several national wildlife refuges do have relatively low wildlife values. However, the report does not address the implications involved in divorcing ourselves of the responsibility of management of a national wildlife refuge.

Page 26, fourth paragraph

The report describes the problem of frequent flooding at Cross Creeks National Wildlife Refuge. We have taken some corrective measures to reduce adverse impacts of flooding, for example, increasing the elevation of dikes and roads and placement of rip-rap.

Page 28, third paragraph

The task of achieving compatibility between the tools used to achieve certain wildlife/habitat objectives and the other wildlife and habitats of a given refuge is indeed a difficult one. There are seldom absolute rights and wrongs rather the practices (e.g., grazing) must be applied, evaluated, modified,

reapplied, reevaluated, etc., in order to eventually achieve the proper balancing of habitat changes and the various wildlife species objectives that may be present at any given time and place.

Within the above context, there are areas of the system where uses such as grazing, timber harvest, agriculture, etc., may not be in proper relationship to some of the wildlife habitats on the refuge. When multiple use is in conflict with the primary purposes of the refuge, then there is, indeed, a serious problem. Instances of this sort are the exception rather than the rule.

General Comments on Fish Hatchery Management

The heading for this subpart of Chapter 3, "Ineffective Management of Fish Hatcheries," is somewhat overstated, especially in view of the funding constraints problems acknowledged by GAO and the citation by GAO of some past efforts to redirect production priorities (even if the priority system is not as finely tuned as desirable or conducive to implementation given past Congressional directives).

The GAO statements regarding limited funding for operation and maintenance of fish hatcheries are a welcome reinforcement of an internally recognized problem of long standing. GAO, however, has apparently not tracked the fate during budget review by DOI and OMB of Service funding requests to help ameliorate these problems. The GAO references to constraints imposed by the Congress on hatchery closures and on production shifts or reductions are similarly useful as record material. It is not clear, however, whether GAO fully recognized the impact of the latter constraints on the need for diversions of maintenance funds to the production functions (last complete sentence at the top of page 30)--although we agree such diversions do compound the effects of an already limited maintenance funding base.

Page 30, first paragraph

The "variety" of facilities consists of only three special facilities--the Tehama-Colusa spawning channels, the Yakima Fish Screens, and the Marble Bluff fishway.

Page 30, third paragraph

The Service has established priorities for fish stocking (Attachment 1). The Service also has prioritized fish hatcheries for Congress as part of budget reduction consideration. In these cases, however, the priorities were based on non-FWS criteria. With the FY 1966 budget, the Service requested authority to close Tupelo National Fish Hatchery, but Congress did not approve the request.

Page 31, second paragraph

Although the Service may be deficient in evaluating fishery resource needs, it has progressed in such determinations. For example, the Service, the Great Lakes Fishery Commission, and the states have determined the numbers of lake trout required for stocking the Great Lakes. Through a cooperative effort with the New England States, we have determined the numbers of Atlantic salmon required to restore populations in New England rivers (Attachment 2). Requirements for mitigating losses of Pacific salmonids have been established. We also have developed standards for put-and-take trout stocking (see Attachment 1). In addition, we have reduced the supply of fish for State programs by 50 percent since 1970 (Attachment 3).

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Page 32, fifth paragraph

The \$1.2 million figure for the Leadville Hatchery includes almost \$600,000 for 12 additional raceways, not rehabilitation of existing facilities.

Page 33, Recommendations

Second Recommendation

The Service has established criteria for retention and operation of fish hatcheries. Those criteria (Attachment 4) need refinement.

Third Recommendation

The Service has identified hatcheries for closure and, in fact, has closed more than 90 national fish hatcheries since 1940 (Attachment 5).

Fourth Recommendation

The Service is presently developing a comprehensive approach, as part of the FY 1983 budget, to identifying maintenance and rehabilitation needs and establishing funding priorities for hatcheries, laboratories, and refuges.

CHAPTER 4

General Comments

The findings of the report related to the Service's Animal Damage Control Program are essentially correct. It should be understood that the Secretary of the Interior has already ordered a comprehensive review of the program, including the Animal Damage Control Act of 1931. The intent of the review is to provide a more effective field effort that balances the nation's need for food and fiber, and wildlife resources.

Specific Comments

Page 35, second paragraph

The first inset could be improved by changing the sentence to read: "The Service's current policy and existing public attitudes conflict with the original intent of the act."

Page 36, final paragraph

Support for the current ADC policy goals can be found in two source documents not listed in the GAO report: "An Analysis of Public Comment on Coyote Management Alternatives," Working Paper No. 14, Division of Program Plans, Fish and Wildlife Service, August 1979; and Kellert, S.R., "Public Attitudes Toward Critical Wildlife and Natural Habitat Issues (Phase I)," School of Forestry and Environmental Studies, Yale University, October 1979, pages 46-47.

CHAPTER 5

General Comments

The Service is in general agreement with the findings and recommendations expressed in this chapter. It should be noted, however, that while there is

a broad need for more fishery management on parks and on public lands, there are some areas where management can be regarded as adequate. For example, Yellowstone National Park has an exemplary trout management program; Great Smokey Mountain National Park maintains a good fishery program, and several national forests cooperate with the Service in their fishery programs.

The Fish and Wildlife Service has participated in developing a policy for fishery management on national parks. Recommendations were provided to the National Park Service in 1979, however, we are not certain how the document has been used or interpreted. There is little Service involvement in fishery programs on Bureau of Land Management lands.

Specific Comments

Page 42, first paragraph

It may be an unintentional omission, but the paragraph should include the Service as a major land management agency. The Service now ranks with the three other agencies identified in this category, particularly since the establishment of major wildlife refuges in Alaska. The overall mission of the Service is to assure protection and sound management of fish and wildlife resources on Federal lands for which it is responsible. In addition, while the Soil Conservation Service is not mentioned in this section, its activities also influence habitat conservation on the approximately two-thirds of U.S. lands in private ownership.

Page 49, last paragraph

The section entitled "Different Management Practices on Adjacent Federal Land. . ." emphasizes management techniques applied to elk as the herds migrate through separate management jurisdictions (Forest Service, National Park Service, and the Fish and Wildlife Service). Elk herds have grown in some instances beyond the carrying capacity of the grazing range needed to support them. The GAO recommendation calls for a cooperative agreement giving the Service authority to decide management techniques within the various jurisdictions. It seems likely that any such agreement would also require state participation. Elk management has been the subject of intensive study, and problems such as jurisdiction and conflicting interests of various constituency groups continually surface. Thus, the Service would find it quite difficult to develop management plans acceptable to all parties and which would provide the necessary authority to implement the management strategy.

The problem has been long recognized, and in an attempt to deal with it, the Jackson Hole Cooperative Elk Studies Group was organized in 1958. It consists of the U.S. Fish and Wildlife Service (National Elk Refuge), National Park Service (Grant Teton National Park), National Forest Service (Bridger-Teton National Forest) and the Wyoming Game and Fish Department. This group meets periodically to review the management situation for the southern Yellowstone elk herd. It is recognized that each agency has different missions and goals, and the Service believes that most problems can be resolved through communication between the various interest groups involved.

Page 52, first paragraph

In order to provide national direction for effective fish and wildlife management, the following additional recommendations are offered:

- A. Cooperative Planning. There should be development of a joint fish and wildlife policy statement by the Departments of the Interior and Agriculture. The Department of Agriculture's policy on fish and wildlife approved by the Secretary of Agriculture in 1979 provides an excellent model upon which to build. The key ingredients of such a policy relate to the development of statewide fish and wildlife species population and/or habitat goals supported by coordinated, interagency management plans developed by state/Federal steering committees.
- B. National Assessment of Fish and Wildlife. This program is largely assigned to the Forest and Rangelands Renewable Resources Planning Act (RPA) of 1974 and to the Soil Conservation Service for the nation's privately-owned agricultural lands under the Soil and Water Resources Conservation Act (RCA) of 1977. The fish and wildlife portions of national renewable resource assessments or appraisals should be done by the Fish and Wildlife Service under authority contained in 742d of the Fish and Wildlife Act of 1956. This would provide for better coordinated information on the status and trend of species and habitats, and hence an overall higher quality of fish and wildlife assessment/appraisal than currently available under RPA/RCA.
- C. National Fish and Wildlife Data Base. A standardized national fish and wildlife data base developed cooperatively by the Fish and Wildlife Service and the states would provide the information base needed to do the above assessment. It would help overcome problems related to limited personnel and funding, and reduce the need for time consuming and site-specific efforts (e.g., to obtain data for decisionmaking). This computerized data would be available for use by other Federal and state agencies and private industry. The data bases would provide the species information for national assessments and appraisals; habitat data would come from the classification defined below.
- D. National Fish and Wildlife Habitat Classification Map. These maps, to be developed by the Fish and Wildlife Service, would classify the surface of the United States and its territories and possessions according to its potential use by fish and wildlife. This would allow for the immediate recognition of the importance of any site or area for its fish and wildlife values.

CHAPTER 6General Comments

The GAO report correctly states that Federal agencies are now faced with new management responsibilities in Alaska in addition to traditional problems

such as conflicting agency goals and objectives, lack of data, and limited resources. Indeed, the conclusion that low funding levels have hampered the Service's ability to manage the land is difficult to refute. Yet the issue is a complex one, and in some instances, as in the case of migratory waterfowl, legal problems have turned out to be major impediments to good management. Often such problems as these must be solved before the best results can be obtained for each dollar spent.

Specific Comments

Page 58, first paragraph

The report properly notes that state/Federal cooperation is needed to manage fish and wildlife resources in Alaska. However, the same paragraph points toward availability of financial resources as a prime reason for the need for state help in management. Again, as in the general comments cited above, legal jurisdiction is a more important factor. Specifically, the inset paragraph on page 55 ("The Alaska Department of Fish and Game has. . .management responsibility on all land in Alaska except where prohibited by Federal law or regulation.") should be highlighted.

Page 59, first paragraph, third inset

The statement that "Alaska's land masses are so large. . . (that they are) able to sustain large fish and wildlife resources even with little or no management" is certainly debatable and is probably no longer true.

Page 59, third paragraph

The statement that there "is a basic lack of knowledge about the habitat and wildlife in the State" is accurate. Unfortunately, the example cited at the bottom of the page is not germane. Fur seals in the Pribilof Islands are the responsibility of the National Marine Fisheries Service whose research has made the fur seal one of the best known species of wildlife in Alaska. Hence, the fact that the Service representative was "surprised" at the number of seals is in itself not necessarily surprising nor an accurate reflection of the state knowledge about the species.

Page 60, fourth paragraph

The draft report emphasizes the need for coordinated management of fish and wildlife data, yet only mentions the Arctic Environmental Information Data Center as a coordinating mechanism. The Fish and Wildlife Service has had in place since 1979, the Alaska Information Management Service (AIMS) in its Anchorage Office which is much better equipped to supply current data and information on the type and in the format appropriate for land management decisions. In addition to conventional alpha-numeric information processing capability, AIMS represents the state-of-the-art in geographic data processing. AIMS, which is operated on a cooperative basis with other Federal and state management agencies in Alaska, maintains large computerized files of mapped

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information on the distribution of various natural resources and other geographic and thematic data which can be readily manipulated and displayed for use during the resource management decision process. It is recommended that the final GAO report should recognize this capability.

Page 62, first paragraph

The "duck wars" mentioned in the first sentence occurred more than twenty years ago and, since then, relationships with natives have improved considerably. The cited inability to cope with management responsibilities for such large lands areas could be placed in a more accurate context. In reality, the inability to change treaties and enabling legislation to reflect the real life situation is affecting our ability to manage migratory birds in a manner commensurate with their needs. The simple act of expending more money per acre to manage these lands may mitigate some of the impact, but will not by itself solve problems which result from tangled or non-existent legal authorities.

