



United States Department of the Interior



NATIONAL PARK SERVICE
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Washington, D.C. 20013-7127

IN REPLY REFER TO:

N1423(490)

14 JAN 1993

Memorandum

To: Regional Directors

From: Associate Director, Natural Resources

Subject: National Park Service (NPS) Fisheries Needs Assessment and Action Plan

I am pleased to provide you with a copy of NPS's Fisheries Needs Assessment and Action Plan. A draft of this plan was circulated for review in March of 1992, following the adoption of the Service's Recreational Fisheries Program, "A Heritage of Fishing." Comments received from regional, park and WASO units were evaluated and integrated to produce this final document. Please thank your staff for their timely and pertinent comments. Their efforts helped produce a plan which when fully implemented, will greatly enhance our fisheries research and management capabilities.

The challenges to preserve and manage fisheries resources in our parks will become increasingly difficult. Development of a strong program would ensure that information needed to protect and maintain fisheries resources are identified, developed and transferred rapidly to park superintendents and staff.

I encourage you to share this document with your staff, particularly those in park units supporting fisheries resources. Any comments or questions concerning the plan should be directed to my office, Attn: Dr. Frank M. Panek, Fishery Biologist, Wildlife and Vegetation Division (WASO) (202-343-1002).

Again, thank you for your assistance in getting this plan completed.

Attachments

National Park Service

**Fisheries Needs
Assessment
and**



Action Plan

**Wildlife and Vegetation Division
Natural Resources Program Branch
Washington, D.C.**

December 1992

EXECUTIVE SUMMARY

The National Park Service has a special and unique mandate to conserve the natural and cultural resources associated with 367 units of the National Park System encompassing 80 million acres of lands and waters and to leave them unimpaired for the enjoyment of future generations. Fisheries resources and recreational fishing occur in 153 units of this system. Some of the Nation's most spectacular natural resources and aesthetically rewarding outdoor recreational experiences can be found in the National Park System.

The Service's present fisheries program lacks the ability to carry out many of the basic activities required to manage park fishery resources. The basic information needed to assess fisheries community structure and balance, to evaluate fishing regulations and to evaluate environmental changes or habitat losses is virtually non-existent in all but a few parks. The Service's ultimate success in the long-term protection of the unique resources of which it is publically entrusted, will depend upon its abilities to identify and respond to the challenges of changing ecological systems and increasing demands on park resources. A first step towards the comprehensive and progressive management of park fisheries resources was the adoption of the Service's Recreational Fisheries Program, "A Heritage of Fishing" in 1992.

The following Fisheries Needs Assessment and Action Plan establishes a strategy for enhancing the Service's fisheries research and management program. The challenges to preserve and manage fisheries resources in the National Parks will become increasingly difficult with time. A strong program would ensure that information needed to protect and maintain fisheries resources are identified, developed, and transferred rapidly to park managers and other resource management staff.

The estimated cost for full implementation of this Action Plan is \$14 million. These costs are distributed over a 3-year period to provide \$6.3 million in salaries for 122 new positions, \$4.7 million in fisheries project development funds, and nearly \$3.0 million for the rehabilitation and improvement of the existing fisheries infrastructure.

Funding and implementation of the Action Plan will enable the Service to substantially improve its fisheries research and management capabilities and to preserve the ecological integrity, genetic variability and diversity of fish populations for future generations of park visitors.

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INTRODUCTION

FISHERIES CONSERVATION, MANAGEMENT AND RECREATION IN THE NATIONAL PARK SYSTEM

The National Park Service (NPS) has a special and unique mandate to "conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as to leave them unimpaired for the enjoyment of future generations" (NPS Organic Act 1916). Consistent with this mandate, the Service has developed goals and policies that emphasize the roles of fundamental ecological processes in natural resource management. The National Park Service provides for the enjoyment of fishing in naturally functioning aquatic ecosystems characterized by native species and quality habitats while striving to preserve and restore the unique ecological and/or cultural features for which the park was established.

Fishery resources are found in 153 of the 362 National Park Service Units (Appendix I). In addition, the National Park Service administers 24 National and/or Wild, Scenic and Recreational Rivers totalling 2,187 miles of some of the most ecologically significant rivers and fisheries resources in the nation (Appendix II).

Aquatic habitats in the Park System include pristine cold and warmwater rivers, streams, natural lakes and reservoirs; urban ponds; and estuarine and marine resources. World-class fisheries are carefully managed by the Service in such well-known units such as Yellowstone, Yosemite and Great Smoky Mountains National Parks. Many units such as Gateway National Recreation Area (NRA), Golden Gate NRA and Lake Mead NRA provide unusual opportunities for quality outdoor public recreation, including recreational fishing, on the doorsteps of some of the Nation's major urban and recreational areas. Fishing opportunities also are provided at over a dozen National Seashores and Lakeshores, and a variety of other units including Historical Parks, National Monuments, National Military Parks, National Memorials, as well as, along several Memorial Highways. Some of the Nation's most spectacular and aesthetically rewarding fishing experiences can be found in the National Parks. Many of the parks provide anglers with the opportunity to fish for native species in natural settings.

National Parks also provide unique opportunities to study native fish populations and to view and learn about fishery resources. Service scientists and managers, as well as, scientists from other agencies and universities, routinely conduct research in the National Parks on issues both relevant to the Park and to global ecology and environmental management. In 1991, non-

NPS investigators conducted 148 studies involving nearly \$2.7 million in expenditures. Environmental education programs in the parks provide interpretive activities on aquatic and marine ecology, habitat conservation, angling ethics and other environmental issues.

NPS Visitor Services has estimated that recreational fishing is responsible for approximately 2.5 percent of all park visitation. In 1989 this represented approximately 7.5 million user days. Using information from the 1985 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation, the Sport Fishing Institute has estimated the economic impact of this recreation to annually exceed \$358 million. The continued conservation and prudent management of these resources is of national importance.

In 1988, the Park Service and more than 60 federal, state and private organizations signed the National Recreational Fisheries Policy. This policy recognizes the benefits to the Nation of the multiple uses of fishery resources and the significant social and economic benefits of recreational fisheries. The policy provides long term goals for conserving and enhancing the Nation's fisheries.

In recognition of its participation as a signatory to this policy, the Service embarked on an ambitious effort to identify the role of fisheries conservation, management and recreational fishing within the National Park System. This effort culminated in 1992 with the Service's adoption of a Recreational Fisheries Program, "A Heritage of Fishing." The program established a framework for management of the unique resources and recreational opportunities in the National Park System while protecting, managing and restoring these fisheries and their associated ecosystems. Goals and objectives were identified and a series of action items proposed to implement the program.

One of the specific action items of the Recreational Fisheries Program was the preparation of a "Fisheries Needs Assessment" to serve as the document for implementation of the service-wide program. Development and subsequent funding and implementation of this "Action Plan" will enable the Park Service to substantially improve its fishery research and management capabilities. Fisheries management policies of the Service must be adequately carried out to preserve the ecological integrity, genetic variability and diversity of fish populations for future generations of park visitors.

CRITICAL FISHERIES PROGRAM SHORTAGES

THE UNMET NEEDS:

The National Park Service manages nearly 80 million acres of lands and waters. The fishery resources in many parks are considered the best in the nation. However, the Service is inadequately staffed and funded to maintain these nationally significant resources, to accomplish its mission of managing, preserving and protecting the fisheries resources found within its parks, and to provide or maintain the facilities supporting fisheries activities. Basic information needed to assess fisheries community structure and balance, to evaluate fishing regulations, and to evaluate environmental changes or habitat losses is virtually non-existent in all but a few of the parks.

In a 1988 "Natural Resources Assessment and Action Program Report," approximately 41 percent of the 127 parks surveyed reported having adequate resource data to make informed decisions regarding fisheries resources. In an additional 99 parks, where fisheries resources and recreation were considered to be secondary to other primary values, only six(6) percent felt that data were adequate (National Park Service 1988). Recent Service efforts to standardize inventory and monitoring data suggests that over 70 percent of parks have poor to non-existent fisheries inventories.

Fisheries and aquatic research and management are on-going activities in many of the National Parks. These activities are carried out by both Service scientists and managers, as well as, by professionals and students from other agencies and institutions. The Service supports a system of 23 Cooperative Park Study Units located in universities across the country. These CPSUs support much of the research occurring in the parks.

A review of the Investigator's Annual Report for the period 1989 - 1991, shows that over 200 fisheries and aquatic resource research projects were conducted for each of these years in the National Park System (Table 1). On the average, approximately 60 percent of these fisheries and aquatic resource projects were funded by other organizations. The majority of this research focused on water quality monitoring, invertebrate taxonomy, impacts to water quality from outside sources, and riparian habitats. The fisheries research funded and conducted by other organizations or universities focused primarily on impacts from activities outside park boundaries, trophy or quality sportfishing, angler use, impacts of non-game fish species on sportfish populations, fish genetics, and threatened or

endangered species. Expenditures by these organizations for fisheries research was approximately twice the Service's expenditures (Table 1). The Service encourages this type of research because it provides information on resources for which funding or staff expertise is not currently available.

Service funded fisheries and aquatic projects for the period 1989-1991 followed the same trend as for other organizations. Approximately 60 percent of the research focused on water quality, impacts of water quality changes on benthos or selected sensitive species, assessments of water resources and impacts of human use. The Service's Water Resource Division focused its research activities on the following areas: instream flow protection; wetlands protection; water quality protection; watershed, stream and riparian zone management; and aquatic resources monitoring. While these projects provide useful information for overall management of aquatic systems, they do not represent the types of projects needed for the management of fisheries resources and recreational fisheries.

Fisheries studies and projects conducted by Service scientists evaluated recreational fisheries use in larger parks, recreation areas and seashores; genetics of native species; restoration of native species and habitats; and management of threatened or endangered species. However, these efforts did not address native species diversity, distribution, and abundance; critical habitat needs of rare and endangered fish species; maintenance of quality recreational fishing; status of exotic and non-native species; evaluations of fishing regulations; or many of the other basic factors required for long-term fisheries management. Park Service expenditures on fisheries projects represented less than 15 percent of the total expenditures in Table 1. As a result, the goals and objectives of the Service's Recreational Fishing Program, including its mission and partnership agreements with other fisheries organizations, are not being adequately addressed.

Resource Management Plans (RMPs) are prepared by the Service for individual park units for the purpose of providing comprehensive management of park natural resources. An analysis of the RMP Data Base for 1991-1995 identified 598 projects directly involving fisheries and aquatic/marine resources (Table 2). The estimated costs to carry out these projects were \$54.8 million. Approximately \$15.2 million in funding was provided for 157 fisheries and aquatic projects during the 4-year period. Of these 157 projects, 47 were fisheries projects funded for \$3.3 million.

A total of 135 fisheries and 304 aquatic projects remain unfunded. Unfunded fisheries projects included baseline inventories for fisheries resources, implementation of monitoring programs, analyses of recreational use on fisheries resources, and the protection of threatened or endangered fish species. A total of nearly \$15 million would be required to implement these fisheries programs. These projects remain unfunded and many important fisheries issues remain unanswered in most park units.

The Service's existing fisheries program lacks the ability to carry out many of the basic research and management activities required to manage park fishery resources. The present level of funding and staffing seriously limits the Service's abilities to accomplish its mission to protect and preserve park resources, and to:

- Develop information bases needed to ensure policies, guidelines, etc. are based on sound scientific information.
- Ensure fisheries activities comply with management policies.
- Implement the goals and objectives of the Service's Recreational Fisheries Program, "A Heritage of Fishing."
- Complete fisheries inventories and develop monitoring programs.
- Develop a professional fisheries management and research program.
- Assess the impacts of exotic and non-native fishes on native fish populations and other aquatic resources.
- Assess the impacts of past and present fish stocking and hatchery management programs on native fish populations.
- Recover federally listed threatened and endangered fish species and preserve unique fish species and strains.
- Evaluate the influences of external activities on park fisheries resources.
- Restore native fish populations to historic levels.
- Restore riparian and aquatic habitats.

- Evaluate the effects of recreational, subsistence, treaty and in some parks, commercial fishing on fisheries and other resources.
- Develop biologically and sociologically based fishing regulations and evaluate catch-and release fisheries.
- Cooperate with Federal and State agencies to develop sound fisheries management programs.
- Develop educational programs on fisheries resources, resource conservation, angler ethics and non-consumptive ways to enjoy fish and their roles in aquatic and marine ecosystems.
- Participate fully in recently signed fisheries related partnership agreements with other agencies and not-for-profit organizations.
- Maintain existing or develop new infrastructures to support fishing activities on NPS lands.

PROFESSIONAL STAFFING SHORTAGES:

The National Park Service has only nine(9) permanent positions classified in the Office of Personnel Management's Fishery Biologists (GS-482) Series (Table 3) representing less than 2 percent of the total permanent professional biologists in the Service (Figure 1). One of these positions serves as the fisheries program manager in the Washington office(WASO). The remaining positions are assigned to regional offices (2 positions) or are located in parks. Most of the regional offices and parks do not have any professional fisheries biologists on staff. Limited additional fisheries assistance comes from approximately 15 positions classified in a variety of titles such as Aquatic Ecologist, Research Ecologist, and Marine Ecologist. These individuals focus most of their work on natural or water resources related activities but often devote more than 50 percent of their time to fishery activities.

When compared with other Federal agencies which have fisheries management responsibilities, it becomes apparent that the Service does not have sufficient resources to address its basic fisheries management and research needs. In addition, it appears that the National Park Service may be one of the few major federal land managing agencies not having congressional line item appropriations specifically for fisheries programs (Table 4). While congressional line items for fisheries programs may not be necessary, additional appropriations to implement the Service's fisheries program are clearly needed.

RECREATIONAL FISHERIES INFRASTRUCTURE NEEDS:

In addition to managing the fisheries resources, the National Park Service also manages the infrastructure necessary to provide access to aquatic resources or protect visitor safety. This infrastructure includes boat ramps, piers, docks, marinas, fish cleaning stations, and restrooms. In 1991, a survey was completed of approximately one third of the 153 parks supporting fishery resources and recreational fishing programs. The survey asked the parks to identify existing infrastructures used to support recreational fishing activities, to identify the costs of repairing, rebuilding or upgrading these facilities, and to identify the structures identified in approved plans for which there are no development funds.

Fifty-seven parks, representing eight regions responded to the survey (Table 5). These parks identified approximately \$19.7 million in rehabilitation and upgrading projects involving some 530 structures. Approximately 20 fish cleaning stations were listed, requiring an additional \$150,000 to repair or replace and \$320,000 would be required to rehabilitate or upgrade fifty existing restroom facilities. In addition, the Southeast Region (SERO) provided a separate needs assessment of nearly \$2 million for the rehabilitation of an additional 150 structures. In total the parks identified nearly 400 ramps, piers, docks or breakwaters in need of repair or replacement. The costs to upgrade these facilities was estimated at more than \$16 million.

These parks (exclusive of SERO) also indicated the need for development of an additional 86 projects at an estimated cost of \$16.6 million. This included over \$3.6 million for the development of 44 new piers, ramps, or docks; approximately 10 new fish cleaning stations costing \$750,000 and fifteen new restroom facilities for \$205,000. All of these proposed projects are in approved plans and have not been funded.

Rehabilitation and upgrading of existing structures will be required to provide safe public access for recreational fishing, to prevent erosion and habitat losses resulting from public use and to provide handicapped access to natural resources.

ACTIONS TO IMPROVE THE NATIONAL PARK SERVICE FISHERIES PROGRAM

The assessments provided in this status report on the current National Park Service Fisheries Program indicate that the Service is not properly funded and staffed to carry out its mission regarding fisheries resources. Analysis of Investigator's Annual Reports for 1989 - 1991, the Resource Management Plan Data Base and the Service's Recreational Fisheries Program, "A Heritage of Fishing," indicate the need for a change in the Service's fisheries management and research programs. A fisheries program that meets identified research and management needs, the goals and objectives of the NPS Recreational Fisheries Program and partnership agreements with other fishery organizations, can only be implemented with adequate staffing, funding, and commitment.

The National Parks are being subjected on a daily basis to greater public use and other stresses resulting from sources both inside and outside the parks (NPS Ecological Study Program Workshop Report 1992). At the same time, the nation's waterways and fisheries resources continue to suffer the ill effects of poor watershed planning. Approximately 80 percent of the nation's flowing waters have problems with water quality and loss of fisheries habitat (Flather and Hoekstra 1989). Native and anadromous fish species continue to decline and 20 percent of North America's native freshwater fish species are either rare, endangered or extinct (Williams and Miller 1990). Over 140 species of freshwater fish have become established outside their native ranges and 40 exotic species have been established in North America (Goodman 1992).

The challenges to preserve and manage fisheries resources in the National Parks will become increasingly difficult with time. The following provides a three year Action Plan for addressing both the needs discussed in this document and these challenges.

FISHERIES STAFFING PLAN:

A strategy for addressing staffing needs for the Service's fisheries program is presented in Table 3. This staffing plan was developed by the Washington Office and later modified to reflect the needs and concerns of individual park units. The plan calls for the expansion of the present nine(9) Fishery Biologists to 122 positions, service wide. As funds become available, fishery biologists will be hired to provide support and direction in those park units, regional offices and Cooperative Park Study Units where critical needs exist. Most of these positions will be management biologists with opportunities for hiring research and supervisory titles where appropriate.

In addition to park based Fishery Biologists, this staffing plan identifies a need to recruit one(1) Fishery Biologist (GS 12/13) in each of the ten regional offices. These biologists will provide technical assistance and policy direction for all of the parks within a region. They will be responsible for working closely with Park Superintendents and the Regional Natural Resources Management Specialists in solving fisheries conservation and management problems. For simplicity sake, these positions are identified for recruitment during the first year of the plan. In reality, regional positions will be established after careful assessment of the service's needs and the availability of any new funds. Otherwise, all new items listed in Table 7 are in priority order. The distribution of Fishery Biologists at the full staffing level is shown in Figure 2.

CREATING A FISHERY BIOLOGIST CAREER LADDER:

At the present time, Fisheries Biologists within the Service have few, if any, promotional opportunities. A biologist seeking promotion usually must leave the Fisheries Biologist (482) Series for a management position in the General Biologist (401) Series or seek promotion through the Research Grade Evaluation System. This latter system will not be available to those who wish to remain in fisheries management.

The staffing plan in Table 7 provides promotional opportunities across the system. All Regional Fishery Biologists will be graded at GS 12/13. Park biologists will usually be hired at GS 9/11 with the opportunity to hire entry level GS 7/9 biologists in several parks with larger staffs. This strategy will allow the Service to provide opportunities for classification of several positions as Supervisory Fishery Biologists. A fully implemented program will ultimately provide promotional opportunities to the GS-14 level in the Washington Office. This career ladder will encourage Fishery Biologists to remain within the Service and will not force staff to seek promotional opportunities in other federal agencies.

RECLASSIFICATION OF EXISTING POSITIONS:

There are approximately 15 positions in the Service that presently function largely as Fishery Biologists but are classified in other series such as Aquatic Ecologist, Research Ecologist, Marine Ecologist etc. Any of these positions devoting more than 50 percent of their time to fisheries issues should be reclassified as a Fishery Biologist. Desk audits can be requested by the employee and/or the supervisor.

FUNDING NEEDS FOR THE EXPANDED PROGRAM:

Salaries and Project Support

The estimated cost for full implementation of the Action Plan is \$13,965,000 (Table 6). These costs are distributed over a three-year period and include salaries, fisheries project funds and funds for rehabilitation, improvement and development of the recreational fisheries infrastructure. Total project costs will be segregated in these major categories as follows:

Salaries-----	45 percent
Project Funds-----	34 percent
Infrastructure----	21 percent

The first year implementation of the plan will involve the hiring of 51 Fishery Biologists at a variety of grade levels from GS 7 to GS 13. Salary and benefit costs for these new employees will be approximately \$ 3 million. In addition, nearly \$ 1.7 million in project funds will be made available to units to support and carry out fisheries research and management projects. This will include the acquisition of vehicles, boats, electrofishing equipment, sampling gear, computers and other equipment and supplies necessary to carry out field programs. Funds may be segregated for general support or specified for particular projects. Portions of the project funds could be made available for contractual services with outside research institutions.

A total of 37 biologists will be hired during the second year of the plan. New funds will be needed to support salary costs of nearly \$ 2 million and \$ 1.5 million in associated project costs. Similarly, year three of the plan will require \$ 1.35 million for salaries and an additional \$ 1.0 million in project funds to support an additional 25 positions.

At the completion of the 3-year Action Plan, the fisheries base budget will require nearly \$ 8 million in salaries for 122 positions, including the existing nine positions.

Employee Training

A portion of the project funds will be allocated to improving training ~~for~~ newly hired biologists and for advanced training of existing ~~staff~~. The Washington staff, in consultation with the WASO Employee Development Division, USFWS Fisheries Academy, American Fisheries Society, and other sources, will develop a comprehensive training package for Service Fishery Biologists. New training opportunities will also be developed for park Resource Management Specialists and Rangers on a variety of fisheries conservation and management topics relevant to park programs and operations.

Maintaining Fisheries Infrastructures

Fisheries infrastructure funds will be made available to park units for the rehabilitation and improvement of existing structures such as docks and piers, boat launching ramps, breakwaters and jetties, etc. The emphasis of this effort will be to provide safe public access at existing facilities and to correct situations of disrepair which lead to erosion and other degradations of aquatic and marine habitats. Since the projected needs (\$19.7 million) far exceed the proposed level of funding (\$3 million), only priority projects will be funded. Rehabilitation and development of park infrastructures is an ongoing budgeting concern beyond the scope of this three year plan.

THE BENEFITS OF AN ENHANCED FISHERIES PROGRAM

The National Park Service can trace its roots to an 1872 act of Congress which set aside Yellowstone as the nation's first National Park. It was not until August 25, 1916 that legislation created the National Park Service and established its unique mandate to conserve the natural and cultural resources of the nation in such a manner as to leave them unimpaired for the enjoyment of future generations (NPS Organic Act 1916). In order to accomplish this goal, natural ecological processes supporting fisheries resources and aquatic ecosystems must be understood, restored, and maintained. These ecological processes include, but are not limited to, fish community structure, population dynamics, nutrient cycles and energy flow, instream flow needs and water regimes, and the interactions of aquatic, riparian and terrestrial habitats. When these processes are protected and maintained, and human use is properly managed, park fishery resources provide a variety of benefits for society.

The National Research Council's Committee on Improving the Science and Technology Programs of the National Park Service recently concluded that "accomplishing the mission of the Park Service requires far more than passive protection; it requires sound understanding of park resources, their status and trends, the threats they face, and the measures needed to correct or prevent problems in these dynamic ecosystems" (National Research Council 1992). The Service's ultimate success in the long-term stewardship of the unique resources of which it is publically entrusted, will depend upon its abilities to identify and respond to the challenges of changing ecological systems and increasing demands of park users. This Action Plan to enhance and improve the Service's fisheries program will go a long way towards accomplishing this goal with respect to aquatic and fishery resources.

Examples of existing NPS fisheries accomplishments and capabilities include:

- Participated in a multi-agency effort to develop the recreational fishing component of the Secretary of Interior's "Enjoy Outdoors America" initiative.
- Participated in development of and signed the National Recreational Fisheries Policy.
- Produced "A Heritage of Fishing," outlining the goals and objectives of the Service's recreational fisheries

- Signed "Fishing Has No Boundaries"-- a Memorandum of Understanding with Amerifish, Inc. to increase opportunities for physically disabled persons to enjoy recreational fishing on public lands.
- Signed "Pathway to Fishing"-- a Memorandum of Understanding with Berkley, Inc. and the In-Fisherman, Inc. to advance public awareness of fishing knowledge and skills, angler ethics, and good stewardship of fisheries resources on public lands.
- Developed, signed and implemented a cooperative agreement with the American Fisheries Society to enhance mutual professional and technical programs.
- Co-sponsored with the American Fisheries Society and other organizations the publication of "The Western Trout of North America."
- Participated as a member of the National Fishing Week Steering Committee.
- Initiated projects to restore aquatic and riparian habitats and restore native fish populations (Great Smoky Mountains, Denali, Sequoia/Kings Canyon, Shenandoah, Yellowstone and Yosemite National Parks).
- Initiated projects to restore threatened or endangered fish species (Big Bend, Rocky Mountain and Crater Lake National Parks; Organ Pipe Cactus and Death Valley National Monuments; Lake Mead National Recreation Area; Saint Croix National Scenic Riverway, and other units).
- Initiated projects to remove exotic or non-native fish species (Yellowstone, Great Smoky Mountains and Crater Lake National Parks; Sleeping Bear Dunes and Apostle Islands National Lakeshores, and other units).
- Co-sponsored professional workshops on "Fisheries Management: Dealing with Development in the Watershed" at the University of Rhode Island and on "East Coast Trout Culture and Management" at Penn State University. Also, organized and chaired a session at the International Symposium on Fish Ecology in Arctic North America held in Fairbanks, Alaska and participated in the 1992 World Fisheries Congress held in Athens, Greece.

The above accomplishments are typical of the kinds of activities that could be enhanced by an expanded fisheries program. In addition, an expanded fisheries program will permit the Service to begin fulfilling some of its unmet research and resource management challenges.

Some of these unmet challenges will include:

MEETING NEW CHALLENGES:

- Develop and implement fishery management and research plans in park units supporting fisheries resources.
- Protect and maintain naturally functioning aquatic ecosystems supporting wild, native fish populations.
- Recover and maintain threatened, endangered or unique fish species such as the Colorado squawfish, humpback chub, and Devils Hole pupfish.
- Protect and restore instream and riparian habitats and participate in efforts to define and control water rights and the effects of water withdrawals on fisheries diversity and productivity.
- Increase interpretative and educational opportunities highlighting fishing recreation, safety, angler ethics and aquatic resource stewardship.
- Provide for the maintenance of quality recreational fishing opportunities and monitor the effects of fishing on fish populations and habitat.
- Provide and manage subsistence, treaty and commercial fisheries where legislatively authorized.
- Construct and maintain infrastructures supporting recreational fishing and boating opportunities.
- Evaluate the roles of fish stocking for the restoration of native fish populations.
- Conduct rearing and spawning habitat studies to restore and enhance Pacific salmon and steelhead populations.
- Develop assessment and monitoring programs for genetic stock identification of salmon and trout stocks in the Pacific Northwest and participate in assessments of east coast migratory striped bass populations.
- Evaluate effects of introduced non-native fish species and diseases on native fish populations.
- Provide for routine monitoring of fish population structure and evaluate and modify sportfishing regulations when needed to protect fishery resources.

- Evaluate the effects of fire and other forms of habitat disturbance or alteration on stream production and fish community dynamics.
- Monitor the levels of environmental contaminants on fish health.
- Develop guidelines for minimizing adverse impacts of park operations and maintenance activities on fisheries resources.
- Coordinate and cooperate with federal, state and tribal groups on fisheries policy and management issues in watersheds directly influencing park resources.
- Initiate efforts to monitor and evaluate the effects of activities occurring outside the parks on park fisheries resources.

The ability of the National Park Service to fulfill its mission, and the goals and objectives of its Recreational Fisheries Program, will be determined by its abilities to attract additional funding and to place critically needed professional staff at locations in the organization where these fisheries resource management challenges are presently unmet.

A strong fisheries management and research program will produce relevant, useful information to support the conservation of natural fish communities and to maintain their viability. Enhanced programs will permit the Service to develop and implement partnerships with those parties who share concerns and responsibilities for the management of park fishery resources. A strong program would ensure that the information needed to protect and maintain fishery resources are identified, developed, and more importantly, transferred rapidly to park managers and other resource personnel. Enhanced management and research capabilities will produce accomplishments benefiting park natural resources and the nation.

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TABLE 1: SUMMARY OF INVESTIGATOR'S ANNUAL REPORTS (1989-1991) OF FISHERIES AND AQUATIC RESEARCH IN NATIONAL PARKS FUNDED BY THE NATIONAL PARK SERVICE OR OTHER ORGANIZATIONS

<u>SPONSOR</u>	<u>FISHERIES PROJECTS</u>		<u>AQUATIC PROJECTS</u>	
	<u>NUMBER</u>	<u>EXPENDITURE</u>	<u>NUMBER</u>	<u>EXPENDITURE</u>
<hr/>				
	1989			
	<hr/>			
NPS	35	\$ 588,800	63	\$ 1,490,700
Others	54	\$ 1,088,400	75	\$ 1,882,300
Sub-total	89	\$ 1,677,200	138	\$ 3,373,000
<hr/>				
	1990			
	<hr/>			
NPS	39	\$ 780,100	47	\$ 1,869,200
Others	78	\$ 1,339,300	92	\$ 2,241,500
Sub-total	117	\$ 2,119,400	139	\$ 4,110,700
<hr/>				
	1991			
	<hr/>			
NPS	32	\$ 485,931	73	\$ 2,426,816
Others	63	\$ 1,427,684	85	\$ 1,248,309
Sub-total	95	\$ 1,913,615	158	\$ 3,675,125
<hr/>				

TABLE 2: SUMMARY OF FUNDED AND PROPOSED FISHERIES AND AQUATIC PROJECTS IN PARK RESOURCE MANAGEMENT PLANS.

REGION	FISHERIES PROJECTS		AQUATIC PROJECTS	
	FUNDED	UNFUNDED	FUNDED	UNFUNDED
North Atlantic	40 ¹ (1) ²	4 (1)	12 (2)	985 (13)
Mid-Atlantic	149 (5)	381 (5)	1577 (31)	2661 (57)
National Capitol	0 (0)	0 (0)	60 (1)	90 (1)
Southeast	205 (11)	3666 (35)	2621 (15)	2486 (29)
Southwest	36 (1)	337 (6)	498 (8)	1458 (31)
Midwestern	23 (2)	2423 (29)	421 (17)	2715 (59)
Rocky Mountain	594 (3)	962 (8)	571 (6)	3246 (31)
Western	209 (7)	1214 (16)	4887 (19)	7181 (54)
Pacific Northwest	758 (10)	3997 (27)	152 (6)	2044 (20)
Alaska	1244 (7)	2006 (8)	1159 (7)	1739 (9)
	3258 (47)	14990 (135)	11958 (112)	24606 (304)

¹ funding levels are in thousands of dollars

² number of projects are in parentheses

**TABLE 3: CURRENT LOCATION OF PROFESSIONAL FISHERY BIOLOGISTS
(GS-482 SERIES) AND PROJECTED NEEDS FOR PROFESSIONAL
FISHERY BIOLOGISTS IN THE NATIONAL PARK SERVICE.**

REGION	EXISTING	NEW POSITIONS			TOTAL
		FY1	FY2	FY3	
Alaska	2	6	5	4	17
North Atlantic	0	2	2	1	5
Mid-Atlantic	0	3	2	1	6
National Capitol	0	2	1	0	3
Southeast	1	7	7	5	20
Midwest	2	5	6	2	15
Rocky Mountain	1	7	4	3	15
Southwest	0	4	2	2	8
Western	1	9	5	5	20
Pacific Northwest	1	5	2	1	9
Washington, DC	1	1	1	1	4
TOTAL	9	51	37	25	122

TABLE 4: CONGRESSIONAL LINE ITEM APPROPRIATIONS FOR MAJOR FEDERAL AGENCY FISHERIES PROGRAMS (millions of dollars).

Agency	FY 88	FY 89	FY 90	FY 91	FY92	FY93
NMFS	162.0	169.7	186.7	201.3	225.7	217.9
USFWS ¹	38.8	42.9	48.1	58.6	64.3	64.4
USFS	13.0	25.0	31.0	41.4	45.5	47.0
BLM ²	0.8	1.3	1.7	2.5	6.5	8.7
NPS	0.0	0.0	0.0	0.0	0.0	0.0

¹ Does not include fisheries research budget

² Fisheries allocations from a combined fish and wildlife line item appropriation.

TABLE 5: RESULTS BY REGION OF A RECREATIONAL FISHERIES INFRASTRUCTURE SURVEY
(in \$1,000s of dollars)

Region	RAMPS				DOCKS/PIERS				PUBLIC ACCESS				BREAKWATERS/JETTIES				FISH CLEANING STATIONS				RESTROOMS			
	Existing No.	Costs	Needed No.	Costs	Existing No.	Costs	Needed No.	Costs	Existing No.	Costs	Needed No.	Costs	Existing No.	Costs	Needed No.	Costs	Existing No.	Costs	Needed No.	Costs	Existing No.	Costs	Needed No.	Costs
Mid-Atlantic	14	NA	1	10	3	50	-	-	1	80	11	9700	1	15	-	-	-	-	-	-	-	-	-	-
North Atlantic	6	59	-	-	4	12	-	-	21	1052	-	-	-	-	-	-	-	-	-	-	-	-	-	-
National Capitol	6	NA	-	-	7	30	-	-	21	NA	-	-	1	25	-	-	-	-	-	-	-	-	-	-
Mid-Western	35	1107	7	502	87	3858	16	2509	4	45	3	1905	1	55	-	-	-	-	3	110	-	-	-	-
Rocky Mtn	26	9419	3	375	62	1104	4	100	8	727	-	-	8	903	-	-	9	130	1	40	45	300	15	205
Southwest	43	204	6	NA	67	390	2	NA	-	-	3	390	-	-	-	-	3	22	6	600	-	-	-	-
Pacific NW	14	NA	1	56	20	35	4	70	1	60	-	-	-	-	-	-	7	NA	-	-	5	20	-	-
	144	10789	18	943	250	5479	26	2679	56	1964	17	11995	11	998	-	-	19	152	10	750	50	320	15	205

TABLE 6: PERSONNEL AND PROJECT FUNDING NEEDS FOR A THREE-YEAR ACTION PLAN TO ENHANCE NPS FISHERIES PROGRAMS

FISCAL YEAR	ITEM	FTE	FUNDING
1	Regional fishery biologists GS-12/13	10	\$800,000.00
	WASO fishery biologist GS-11/12	1	\$ 50,000.00
	Park fishery biologists GS-9/11	40	\$2,100,000.00
	WASO fishery project funds		\$500,000.00
	Supplemental project funds for existing field fishery programs		\$175,000.00
	Project funds for expanded fishery program		\$1,500,000.00
	SUBTOTAL		----- \$5,125,000.00
2	WASO fishery biologist GS-11/12	1	\$50,000.00
	Park fishery biologists GS-9/11	36	\$1,860,000.00
	Project funds for expanded fishery program		\$1,500,000.00
	Fishery infrastructure funds		\$2,000,000.00
	SUBTOTAL		----- \$5,490,000.00
3	WASO fishery biologist GS-11/12	1	\$50,000.00
	Park fishery biologists GS-9/11	24	\$1,300,000.00
	Project funds for expanded fishery program		\$1,000,000.00
	Fishery infrastructure funds		\$1,000,000.00
	SUBTOTAL		----- \$3,350,000.00
TOTAL FUNDING			----- \$13,965,000.00

TABLE 7: STAFFING PLAN FOR THE NATIONAL PARK SERVICE'S FISHERIES PROGRAM

REGION	FISCAL YEAR	NPS UNIT	POSITION TITLE	GRADE	<u>ARO</u> <u>Recommend</u>
Alaska	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13	
		Katmai NP	Fishery Biologist (Sup)	GS 12/13 - 11/12	
		Northwest Areas	Fishery Biologist (Mgmt)	GS 9/11 - 11/12	
		Gates of the Arctic NP	Fishery Biologist (Mgmt)	GS 9/11	
		Lake Clark NP	Fishery Biologist (Mgmt)	GS 9/11	
		Wrangell-St. Elias NP	Fishery Biologist (Mgmt)	GS 9/11	
	2	Yukon-Charley River NP	Fishery Biologist (Mgmt)	GS 9/11	
		Glacier Bay NP	Fishery Biologist (Mar)	GS 9/11 - 11/12	
		Katmai NP	Fishery Biologist (Mgmt)	GS 9/11	
		Fairbanks Science Center	Fishery Biologist (Sup)	GS 12/13 - 12 (Res)	
		Anchorage Science Center	Fishery Biologist (Sup)	GS 12/13 - 12 (Res)	
	3	Fairbanks Science Center	Fishery Biologist (Res)	GS 9/11 - 12	
		Fairbanks Science Center	Fishery Biologist (Res)	GS 9/11 - 12	
		Anchorage Science Center	Fishery Biologist (Mgmt)	GS 9/11 - 12 (Res)	
		Anchorage Science Center	Fishery Biologist (Res)	GS 9/11 - 12	
North Atlantic	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13	
		Acadia NP	Fishery Biologist (Mgmt)	GS 9/11	
	2	Cape Cod NS	Fishery Biologist (Mgmt)	GS 9/11	
		Fire Island NS	Fishery Biologist (Mgmt)	GS 9/11	
	3	Gateway NS	Fishery Biologist (Mgmt)	GS 9/11	
Mid-Atlantic	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13	
		Shenandoah NP	Fishery Biologist (Mgmt)	GS 9/11	
		Delaware Water Gap NRA	Fishery Biologist (Mgmt)	GS 9/11	
	2	Assateague Island NS	Fishery Biologist (Mgmt)	GS 9/11	
		New River Gorge NR	Fishery Biologist (Mgmt)	GS 9/11	

TABLE 7: CONTINUED

REGION	FISCAL YEAR	NPS UNIT	POSITION TITLE	GRADE
National Capital	3	Upper Delaware NSR	Fishery Biologist (Mgmt)	GS 9/11
	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13
		Catoctin Mountain Park	Fishery Biologist (Mgmt)	GS 9/11
Southeast	2	Rock Creek Park	Fishery Biologist (Mgmt)	GS 9/11
	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13
		Great Smoky Mountains NP	Fishery Biologist (Mgmt)	GS 9/11
		Biscayne Bay NP	Fishery Biologist (Mar)	GS 9/11
		Everglades NP	Fishery Biologist (Mgmt)	GS 9/11
		Big Cypress NP	Fishery Biologist (Mgmt)	GS 9/11
		Canaveral NS	Fishery Biologist (Mar)	GS 9/11
		Cattahouchee River NRA	Fishery Biologist (Mgmt)	GS 9/11
	2	Congaree Swamp NM	Fishery Biologist (Mgmt)	GS 9/11
		Blue Ridge Parkway	Fishery Biologist (Mgmt)	GS 9/11
		Cape Hatteras NS	Fishery Biologist (Mar)	GS 9/11
		Mammoth Cave NP	Fishery Biologist (Mgmt)	GS 9/11
		Gulf Islands NS	Fishery Biologist (Mar)	GS 9/11
		Big South Fork/Obed SR	Fishery Biologist (Mgmt)	GS 9/11
		Virgin Islands NP	Fishery Biologist (Mar)	GS 9/11
Midwest	3	Great Smoky Mountains NP	Fishery Biologist (Mgmt)	GS 7/9
		Big South Fork NR & NRA	Fishery Biologist (Mgmt)	GS 7/9
		Big Cypress NP	Fishery Biologist (Mgmt)	GS 7/9
		Everglades NP	Fishery Biologist (Mgmt)	GS 7/9
		Cape Lookout NS	Fishery Biologist (Mar)	GS 9/11
	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13
		Apostle Islands NL	Fishery Biologist (Mgmt)	GS 9/11
		Ozark NSR	Fishery Biologist (Mgmt)	GS 9/11
		Isle Royale NP	Fishery Biologist (Mgmt)	GS 9/11
		St. Croix NSR	Fishery Biologist (Mgmt)	GS 9/11

TABLE 7: CONTINUED

REGION	FISCAL YEAR	NPS UNIT	POSITION TITLE	GRADE
Midwest (con't)	2	Sleeping Bear Dunes NS	Fishery Biologist (Mgmt)	GS 9/11
		Voyageurs NP	Fishery Biologist (Sup)	GS 9/11
		Voyageurs NP	Fishery Biologist (Mgmt)	GS 7/9
		Indiana Dunes NL	Fishery Biologist (Mgmt)	GS 9/11
		Niobrara NR	Fishery Biologist (Mgmt)	GS 9/11
		Cuyahoga Valley NRA	Fishery Biologist (Mgmt)	GS 9/11
	3	Pictured Rock NL	Fishery Biologist (Mgmt)	GS 9/11
		Isle Royale NP	Fishery Biologist (Mgmt)	GS 7/9
Rocky Mtn	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13
		Glacier NP	Fishery Biologist (Mgmt)	GS 9/11
		Rocky Mountain NP	Fishery Biologist (Mgmt)	GS 9/11
		Zion NP	Fishery Biologist (Mgmt)	GS 9/11
		Yellowstone NP	Fishery Biologist (Mgmt)	GS 9/11
		Glen Canyon NP	Fishery Biologist (Sup)	GS 9/11
		Canyonlands NP	Fishery Biologist (Mgmt)	GS 9/11
	2	Dinosaur NP	Fishery Biologist (Mgmt)	GS 9/11
		Grand Teton NP	Fishery Biologist (Mgmt)	GS 9/11
		Bighorn Canyon NRA	Fishery Biologist (Mgmt)	GS 9/11
		Cureçanti NRA	Fishery Biologist (Mgmt)	GS 9/11
	3	Glen Canyon NP	Fishery Biologist (Mgmt)	GS 7/9
		Black Canyon of the Gunnison	Fishery Biologist (Mgmt)	GS 9/11
		Capitol Reef NP	Fishery Biologist (Mgmt)	GS 9/11
Southwest	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13
		Amistad NRA	Fishery Biologist (Sup)	GS 9/11
		Jean Lafitte NHP	Fishery Biologist (Mgmt)	GS 9/11
		Lake Meridith NRA	Fishery Biologist (Mgmt)	GS 9/11
	2	Buffalo NR	Fishery Biologist (Mgmt)	GS 9/11
		Padre Island NS	Fishery Biologist (Mgmt)	GS 9/11

TABLE 7: CONTINUED

REGION	FISCAL YEAR	NPS UNIT	POSITION TITLE	GRADE
Southwest	3	Big Thicket NP	Fishery Biologist (Mgmt)	GS 9/11
		Big Bend NP	Fishery Biologist (Mgmt)	GS 9/11
Western	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13
		Lake Mead NRA	Fishery Biologist (Sup)	GS 9/11
		Channel Islands NP	Fishery Biologist (Sup)	GS 9/11
		Death Valley NM	Fishery Biologist (Mgmt)	GS 9/11
		Yosemite NP	Fishery Biologist (Mgmt)	GS 9/11
		Redwood NP	Fishery Biologist (Mgmt)	GS 9/11
		Hawaii Valcanoes	Fishery Biologist (Mgmt)	GS 9/11
		Haleakala NP	Fishery Biologist (Mgmt)	GS 9/11
		Sequoia NP	Fishery Biologist (Mgmt)	GS 9/11
	2	Grand Canyon NP	Fishery Biologist (Mgmt)	GS 9/11
		Lake Mead NRA	Fishery Biologist (Mgmt)	GS 7/9
		Channel Islands NP	Fishery Biologist (Mgmt)	GS 7/9
		Point Reyes NS	Fishery Biologist (Mgmt)	GS 9/11
		Whiskeytown NRA	Fishery Biologist (Mgmt)	GS 9/11
	3	Yosemite NP	Fishery Biologist (Mgmt)	GS 7/9
		Golden Gate NRA	Fishery Biologist (Mgmt)	GS 9/11
		Lake Mead NRA	Fishery Biologist (Mgmt)	GS 7/9
		Organ Pipe Cactus NM	Fishery Biologist (Mgmt)	GS 9/11
		Whiskeytown	Fishery Biologist (Mgmt)	GS 7/9
Pacific NW	1	Regional Office	Fishery Biologist (Mgmt)	GS 12/13
		Olympic NP	Fishery Biologist (Mgmt)	GS 9/11
		Crater Lake NP	Fishery Biologist (Mgmt)	GS 9/11
		Coulee Dam NRA	Fishery Biologist (Mgmt)	GS 9/11
		North Cascades NP	Fishery Biologist (Mgmt)	GS 9/11
	2	Mount Rainier NP	Fishery Biologist (Mgmt)	GS 9/11
		North Cascades NP	Fishery Biologist (Mgmt)	GS 7/9

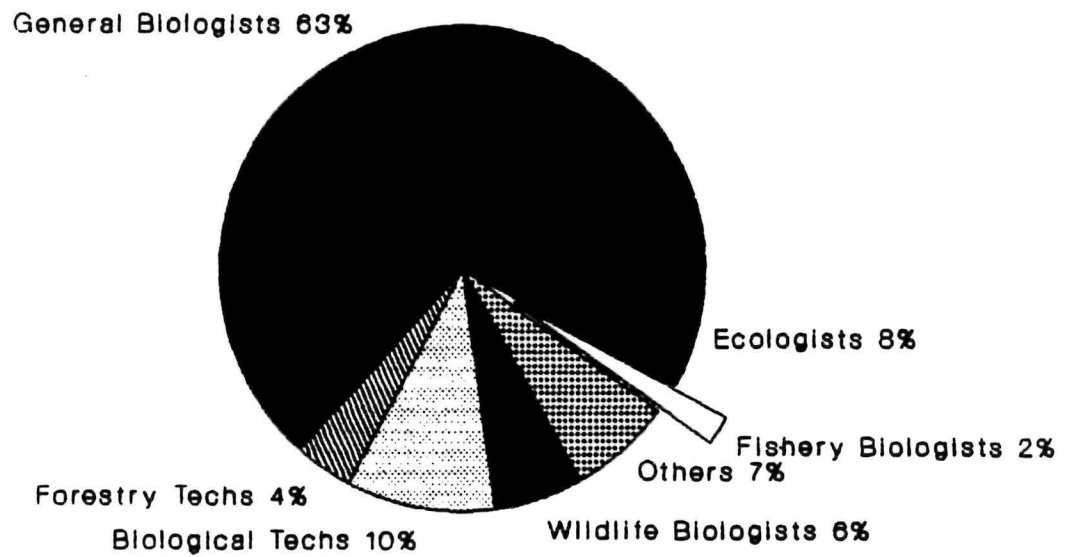
TABLE 7: CONTINUED

REGION	FISCAL YEAR	NPS UNIT	POSITION TITLE	GRADE
Pacific NW	3	Crater Lake NP	Fishery Biologist (Mgmt)	GS 7/9
Washington	1	WASO	Fishery Biologist (Mgmt)	GS 11/12
	2	WASO	Fishery Biologist (Mgmt)	GS 11/12
	3	WASO	Fish Pathologist	GS 11/12

note: Most of the above positions are classified as Fishery Biologists (Management). Research (Res) classifications may be more appropriate in some of these units. Final classifications will be determined by regional/park needs. Where any unit supports more than one biologist, a Supervisory Fishery Biologist has been designated. The exception to this is where existing staff (not shown in this table) will be reclassified to fill supervisory titles. Marine Fishery Biologists (Mar) are needed in several units and are so noted above.

Figure 1

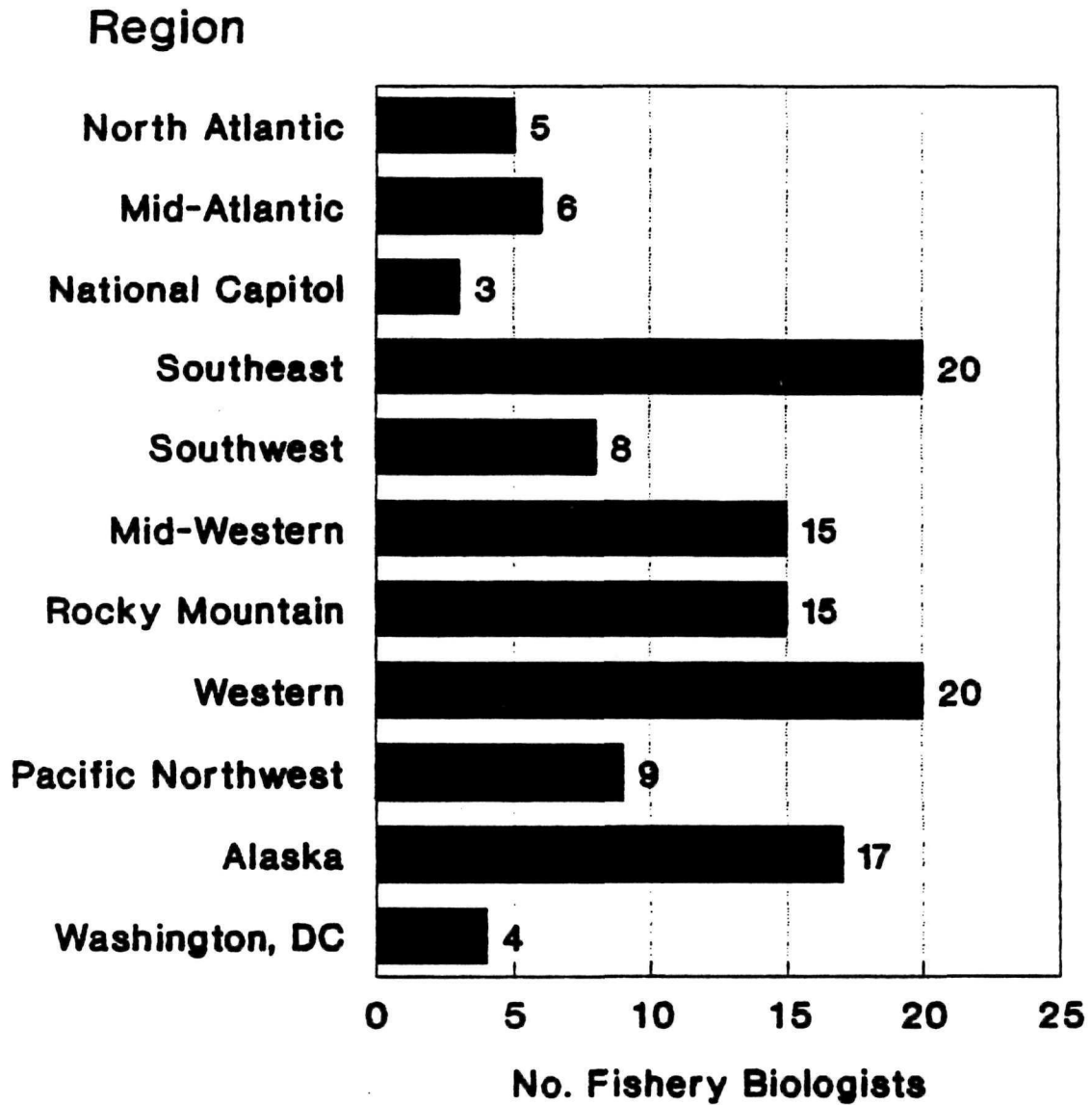
Permanent Biologist Positions National Park Service



(as of October, 1992)

Figure 2

Fishery Biologist Staffing Plan National Park Service



APPENDIX I

INVENTORY OF NATIONAL PARK UNITS WITH FISHERIES RESOURCES

(153 UNITS)

NORTH ATLANTIC REGION (6)

Acadia National Park (ME)
Cape Cod National Seashore (MA)
Fire Island National Seashore (NY)
Gateway National Recreation Area (NY)
Lowell National Historical Park (MA)
Salem Maritime National Historic Site (MA)

MID ATLANTIC REGION (9)

Assateague Island National Seashore (MD)
Delaware Water Gap National Recreation Area (NJ, PA)
Frederick and Spotsylvania National Military Park (VA)
Friendship Hill National Historic Site (PA)
George Washington Birthplace National Monument (VA)
New River Gorge National River (WV)
Shenandoah National Park (VA)
Upper Delaware Scenic and Recreational River (PA, NY)
Valley Forge National Historical Park (PA)

NATIONAL CAPITAL REGION (14)

Antietam National Battlefield (MD)
Catoctin Mountain Park (MD)
Chesapeake and Ohio Canal National Historical Park (MD,WV,DC)
Fort Washington Park (MD)
George Washington Memorial Parkway (VA)
Great Falls Park (VA)
Harpers Ferry National Historical Park (WV)
Lyndon B. Johnson Memorial Grove on the Potomac (DC)
Manassass National Battlefield Park (VA)
New River Gorge National River (WV)
Piscataway Park (MD)
Prince William Forest Park (VA)
Rock Creek Park (DC)
Theodore Roosevelt Island (DC)

SOUTHEAST REGION (29)

Big Cypress National Preserve (FL)
Big South Fork National River and Recreation Area (TN)
Biscayne National Park (FL)
Blue Ridge Parkway (NC, VA)
Buck Island Reef National Monument (VI)
Canaveral National Seashore (FL)
Cape Hatteras National Seashore (NC)
Cape Lookout National Seashore (NC)
Chattahoochee River National Recreation Area (GA)
Conagree Swamp National Monument (SC)
Cumberland Island National Seashore (GA)
DeSoto National Memorial (FL)
Everglades National Park (FL)
Fort Jefferson National Monument (FL)
Fort Matanzas National Monument (FL)
Fort Sumter National Monument (SC)
Fort Pulaski National Monument (GA)
Great Smoky Mountain National Park (TN, NC)
Gulf Breeze National Seashore (FL)
Gulf Islands National Seashore (MS)
Horseshoe Bend National Military Prk (AL)
Mammoth Cave National Park (KY)
Moores Creek National Battlefield (NC)
Natchez Trace Parkway (MS, TN, AL)
Ninety Six National Historic Site (SC)
Obed Wild and Scenic River (TN)
Ocmulgee National Monument (GA)
Salt River Bay National Historical Park & Preserve (VI)
Virgin Islands National Park (VI)

SOUTHWEST REGION (11)

Amistad Recreation Area (TX)
Arkansas Post National Memorial (AR)
Bandelier National Monument (NM)
Big Thicket National Preserve (TX)
Big Bend National Park (TX)
Buffalo National River (AR)
Chickasaw National Recreation Area (OK)
Gila Cliff Dwellings National Monument (NM)
Jean Lafitte National Historical Park & Preserve (LA)
Lake Meredith Recreation Area (TX)
Padre Island National Seashore (TX)

MID-WEST REGION (18)

Agate Fossil Beds National Monument (NE)
Apostle Islands National Lakeshore (WI)
Cuyahoga Valley National Recreation Area (OH)
Fort Larned National Historic Site (KS)
Grand Portage National Monument (MN)
Indiana Dunes National Lakeshore (IN)
Isle Royale National Park (MI)
Lower St. Croix National Scenic River (WI)
Mound City Group National Monument (OH)
Natchez Trace Parkway (MS, AL, TN) (also see SE Region)
Niobrara National River (NE)
Ozark National Scenic Riverways (MO)
Perry's Victory and International Peace Memorial (OH)
Pictured Rocks National Lakeshore (MI)
Sleeping Bear Dunes National Lakeshore (MI)
St. Croix National Scenic River (WI)
Voyageurs National Park (MN)
Wilson's Creek National Battlefield (MO)

ROCKY MOUNTAIN REGION (20)

Big Hole National Battlefield (MT)
Bighorn Canyon National Recreation Area (MT, WY)
Black Canyon of the Gunnison National Monument (CO)
Capitol Reef National Park (UT)
Curecanti National Recreation Area (CO)
Devils Tower National Monument (WY)
Dinosaur National Monument (CO)
Fort Laramie National Historic Site (WY)
Fort Union Trading Post National Historic Site (ND)
Glacier National Park (MT)
Glen Canyon National Recreation Area (UT)
Grand Teton National Park (WY)
Great Sand Dunes National Monument (CO)
John D. Rockefeller, Jr. Memorial Parkway (WY)
Knife River Indian Villages National Historic Site (ND)
Rainbow Bridge National Monument (UT)
Rocky Mountain National Park (CO)
Theodore Roosevelt National Park (ND)
Yellowstone National Park (WY)
Zion National Park (UT)

WESTERN REGION (22)

Cabrillo National Monument (CA)
Channel Islands National Park (CA)
Death Valley National Monument (CA)
Devils Postpile National Monument (CA)
Fort Point National Historic Site (CA)

WESTERN REGION (cont'd)

Golden Gate National Recreation Area (CA)
Grand Canyon National Park (AZ)
Great Basin National Park (NV)
Hawaii Volcanoes National Park (HI)
Haleakala National Park (HI)
Kings Canyon National Park (CA)
Lake Mead National Recreation Area (NV, AZ)
Lassen Volcanic National Park (CA)
Organ Pipe Cactus National Monument (AZ)
Point Reyes National Seashore (CA)
Pu'uhonua o Honaunau National Historical Park (HI)
Redwood National Park (CA)
Santa Monica Mountains National Recreation Area (CA)
Sequoia National Park (CA)
War in the Pacific National Historical Park (Guam)
Whiskeytown-Shasta-Trinity National Recreation Area (CA)
Yosemite National Park (CA)

PACIFIC NORTHWEST REGION (10)

Coulee Dam National Recreation Area (WA)
Crater Lake National Park (OR)
Ebey's Landing National Historical Reserve (WA)
John Day Fossil Beds National Monument (OR)
Lake Chelan National Recreation Area (WA)
Mount Rainer National Park (WA)
Nez Perce National Historic Site (ID)
North Cascades National Park (WA)
Olympic National Park (WA)
Ross Lake National Recreation Area (WA)

ALASKA REGION (15)

Aniakchak National Monument & Preserve (AK)
Bering Land Bridge National Preserve (AK)
Cape Krusenstern National Monument (AK)
Denali National Park & Preserve (AK)
Gates of the Arctic National Park & Preserve (AK)
Glacier Bay National Park & Preserve (AK)
Katmai National Park & Preserve (AK)
Kenai Fjords National Park (AK)
Klondike Gold Rush National Historical Park (AK)
Kobuk Valley National Park (AK)
Lake Clark National Park & Preserve (AK)
Noatak National Preserve (AK)
Sitka National Historical Park (AK)
Wrangell-St Elias National Park & Preserve (AK)
Yukon-Charley Rivers National Preserve (AK)

APPENDIX II

Inventory of National Rivers and Wild, Scenic and Recreational Rivers Administered by the National Park Service

Region/Unit	Miles
<u>Mid-Atlantic Region</u>	
Bluestone National Scenic River (WV)	11
Delaware National Scenic River (PA and NY)	41
Upper Delaware Scenic & Recreational River (PA and NY)	73
<u>Southeast Region</u>	
Obed Wild and Scenic River (TN)	45
<u>Midwest Region</u>	
Lower St. Croix National Scenic Riverway (WI)	27
Missouri National Recreational River (NE)	59
Niobrara National Scenic River (NE)	76
Saint Croix National Scenic River (WI)	200
<u>Southwest Region</u>	
Rio Grande Wild and Scenic River (TX)	191
<u>Western Region</u>	
Kern River, Sequoia National Park (CA)	151
Kings River, Kings Canyon National Park (CA)	81
Merced River, Yosemite National Park (CA)	114
Tuolumne River, Yosemite National Park (CA)	83
<u>Alaska Region</u>	
Alagnak Wild River, Katmai National Park & Preserve	69
Alatna Wild River, Gates of the Arctic	83
Aniakchak Wild River, Aniakchak Nat'l Monument & Preserve	63
Charley Wild River, Yukon-Charley Rivers Park & Preserve	203
Chilikadrotna Wild River, Lake Clark Nat'l Park & Preserve	11
John Wild River, Gates of the Arctic Nat'l Park	53
Kobuk Wild River, Gates of the Arctic Nat'l Park	110
Mulchatna Wild River, Lake Clark Nat'l Park & Preserve	24
Noatak Wild River, Gates of the Arctic Nat'l Park	330
Salmon Wild River, Kobuk Valley Nat'l Park	70
Tinayguk Wild River, Gates of the Arctic Nat'l Park	44
Tlikakila Wild River, Lake Clark Nat'l Park & Preserve	51
Total Miles	2263