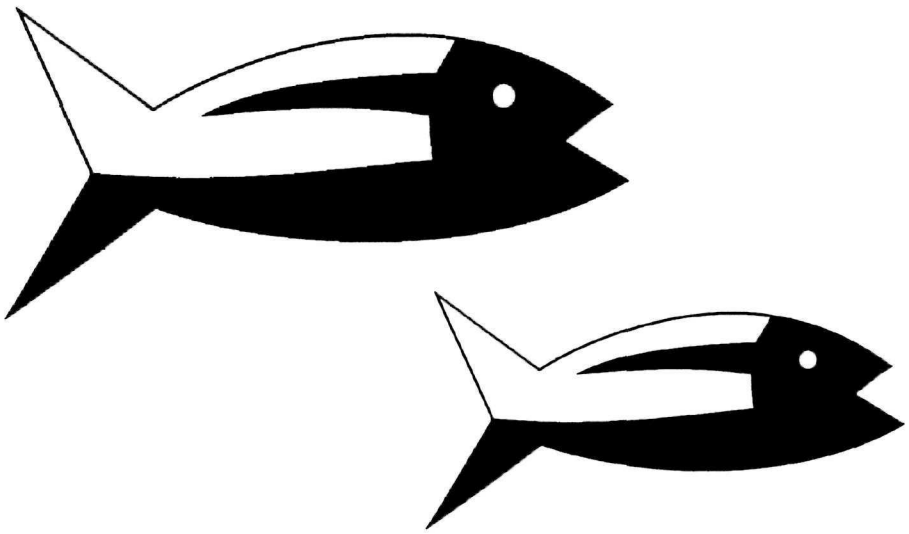
Annual Report

Fisheries
Programs and Accomplishments

A Heritage of Fishing

for Fiscal Year 1993



Department of the Interior
National Park Service
Wildlife and Vegetation Division

Washington, D.C.

April 1, 1994

A Heritage of Fishing
The National Park Service Recreational Fisheries Program

The National Park System consists of 367 units, representing nearly 80 million acres in the continental United States, Alaska, Hawaii, Virgin Islands, Guam, and America Samoa. Aquatic and marine resources exist in 163 of these units.

In June, 1988, the National Park Service (NPS) and more than 60 Federal, State, and private organizations signed the National Recreational Fisheries Policy. The purpose of the policy was to provide long-term common goals for managing the nation's fisheries. Using this framework, the NPS adopted a Recreational Fisheries Program in 1992 recognizing that fishing has been a traditional recreational activity in most units of the National Park System since congressional authorization of Yellowstone National Park in 1872. Referred to as "The 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.

"A Heritage of Fishing" provides a comprehensive guide for the development of the Service's fisheries programs. Under the guiding mission of the NPS Organic Act of 1916, the recreational fisheries program is directed to preserving and restoring aquatic/marine ecosystems and improving recreational fisheries management. The program has four(4) primary goals:

Goal 1: ***Protect, restore and conserve fishery resources.***

Goal 2: ***Increase the quality, quantity, and diversity of recreational fishing opportunities.***

Goal 3: ***Improve partnerships between governments and the private sector for conserving and managing recreational fisheries.***

Goal 4: ***Identify and incorporate economic values and opportunities in developing recreational fisheries programs.***

This report provides a summary of fisheries research and management programs and activities conducted by the NPS during FY 1993 which directly support the goals of "A Heritage of Fishing." Information for this report was compiled from highlight and activity reports provided by park and regional natural resource managers and fishery/aquatic biologists. Information on FY 1993 funded projects was obtained for non-reporting parks from the Resource Management Planning Database.

This report provides an assessment of the first full year of resource management activities following the adoption of the Recreational Fisheries Program and establishes a benchmark for assessing future program accomplishments.

Progress Towards Meeting Goals

Fisheries programs and activities were carried out in 38 parks of the National Park System in FY 1993. This represented 23.3% of the units supporting aquatic and/or marine habitats. In total, there were $2,468,054 in expenditures to support 71 projects in the 10 regions and the Washington office. The overall staffing level to support these projects in FY 1993 was 38.8 FTEs.

An analysis of the project specific information included in Appendix I suggests that NPS fishery management activities in FY 1993 could be categorized in five(5) principal areas:

Management Activities	*No. Projects*	*Expenditures*
1. Protect, restore and conserve fishery resources	*45*	*$ 1,592,774*
2. Develop and implement fishery management plans and cooperative agreements	*10*	*$ 198,000*
3. Manage threatened and endangered species and other fish stocks at risk	*8*	*$ 306,000*
4. Monitor and manage coral reef fish communities	*1*	*$ 241,000*
5. Manage recreational and commercial fisheries	*7*	*$ 130,280*
Total Fisheries Projects	*71*	*$ 2,468,054*

As shown above, projects to protect, restore, and conserve fishery resources represented the largest share of fishery program activities in FY 1993. Of the 38.8 FTEs of professional and technical support expended in FY 1993 on fisheries programs (Appendix I), approximately 78.3% was expended on programs to monitor and evaluate fish populations or to restore habitats.

Regional Highlights

The following provides a few brief highlights of some of the fisheries accomplishments in each of the NPS regions.

Alaska Region

Glacier Bay Fisheries

Several studies are underway at Glacier Bay National Park to assess the impacts of recreational and commercial fisheries. Pacific halibut, along with five species of Pacific salmon, Dungeness crab, tanner crab, and two species of king crab are harvested within the boundaries of Glacier Bay National Park in commercial and recreational fisheries. Studies are aimed at developing a better understanding of the effects of commercial fishing on the ecosystem and the fisheries this ecosystem supports.

The major goals of studies on Pacific halibut are to gain an ecosystem level understanding of halibut populations, to create a population model, and to evaluate the effects of sport and commercial harvests. Mark-recpature studies are providing information on harvest rates in the sport and commercial fisheries and information on fish movement and distributions. Recent habitat studies suggest that preferred habitats for Pacific halibut, and other species such as red irish lord and great sculpin, exist at the mouth of the bay in areas of high commercial fishing effort. Research suggests that the small home ranges of adult halibut may make them particuarly vulnerable to commercial and recreational fishing.

Dungeness crab studies at Glacier Bay are aimed at describing the population differences between exploited fisheries and those protected within wilderness waters. In addition to developing estimates of population density and size distribution, biologists are evaluating the physical and reproductive conditions of crabs during the brooding season.

Spawning Run Characteristics of Dolly Varden in the Kugururok River, Noatak National Preserve

The Noatak River drainage is a major producer of Dolly Varden char in northwest Alaska. These char are of key importance to a large subsistence fishery near the mouth of the Noatak River and a rapidly growing and recently discovered sport fishery in the tributary streams. The world sport fishing record was caught in the Kelly River, just downstream of the Kugururok River in 1991. The major goal of this project is to describe summer and fall spawning migrations of Dolly Varden char in Kugururok River, a major tributary to the Noatak River. Partial weirs and seining efforts in FY 1993 were conducted to describe the spawning migrations, the sex and size composition

of summer and fall spawners, and to evaluate spawning success. The project is being conducted with the assistance of the Cooperative Fish and Wildlife Research Unit at the University of Alaska. Information gathered from these studies will serve as ground truths for simultaneous aerial counts being conducted by Alaska Department of Fish and Game.

Pacific Northwest Region

Ecology of Rainbow Trout and Kokanee Salmon in Crater Lake, Crater Lake National Park

Originally barren of fish, Crater Lake was stocked with approximately 1.8 million salmonids from 1888 to 1941. Rainbow trout and kokanee salmon are the only fish species known to inhabit the lake. This study was designed to evaluate the ecological roles of introduced fish on the aquatic ecology of Crater Lake. Fishery biologists found kokanee salmon to exhibit cyclic patterns in population age structure, condition, abundance and biomass from 1985-1991. Rainbow trout maintained a diverse population structure throughout the study with trends towards increased abundance of older age classes and larger fish. Initiated in 1985 as part of a larger Crater Lake Ecosystem Study, the fisheries and limnological studies found the lake ecosystem extremely responsive and sensitive to environmental changes. Data did not support the hypothesis that the clarity of Crater Lake had experienced any long-term changes. However, researchers cautioned that global climate change, air pollution, on-site auto and boat use, and exotic fish populations may potentially threaten the pristine nature of Crater Lake.

Western Region

Redwood Creek Fisheries Management Redwood National Park

Redwood Creek and its tributaries historically supported significant populations and fisheries for steelhead, coastal cutthroat trout, and chinook salmon. Due to extensive timber harvest in the upper watershed and degradation of stream habitat, steelhead and cutthroat trout stocks have declined significantly from historic levels. Population monitoring of summer steelhead populations has been conducted by NPS since 1981. Surveys conducted in FY 1993 suggest that population levels are at record lows. Efforts to restore native fish stocks included habitat restoration projects on Bridge Creek and adoption of restrictive fishing regulations and area closures to protect declining salmonid stocks.

Restoration of Merced River Habitat and Fisheries,
Yosemite National Park

A 1987 amendment to the Wild and Scenic Rivers Act of 1968 designated 43 miles of the Merced River as a Wild and Scenic River. However, the Merced River has been seriously degraded over the last 100 years by human-use and influence. Significant losses of riparian vegetation and natural river channel morphology have resulted from the construction of dams, diversion walls, roads, revetments, and increased park visitation. The long standing practice of removing woody debris from the river to protect man-made structures and to insure the safety of rafters, boaters, and anglers has seriously reduced quality fisheries habitat. The stocking and establishment of exotic brown trout populations seriously limits the restoration of native trout fisheries. In order to address these complex issues, an interagency workshop on "Merced River Ecosystem Management" was held in 1993. The goals of the workshop were to produce a comprehensive draft management plan to restore riverine habitats, aquatic habitats, and native fish populations.

Rocky Mountain Region

Endangered Fish Species Protection, Preservation, and Recovery
Upper Colorado River Drainage

Many of the native, riverine fishes of the Colorado River have not done well against the efforts of civilization to tame the river for flood control, hydroelectric power, and a variety of other water uses or from the introduction of non-native fishes to support new recreational fisheries. Recent studies at Canyonlands National Park found only 8 species of the 31 species in the fish community to be natives. Populations of native Colorado squawfish, humpback chub, razorback sucker, and bonytail chub are endangered not only at Canyonlands, but throughout the river basin. In fact, NPS manages eight(8) park units on the Colorado River System and has resource management responsibilities over critical habitats for all four(4) of these endangered species.

Park and regional staff are becoming increasingly involved in the Upper Colorado Recovery Implementation Program by participating in development of long term management plans and participating in fisheries investigations and other activities. In FY 1993, significant efforts were expended to sample larval and juvenile razorback suckers. A new technique using light boxes significantly increased sampling efficiencies. Additional studies were conducted at Lake Powell and Lake Mohave to document use of backwater areas for razorback sucker production. A Memorandum of Understanding between the NPS and Utah Division of Wildlife Resources was signed committing both agencies to developing joint cooperative fisheries plans for both native and introduced sport fishes at Glen Canyon National Recreation Area.

Restoration of Arctic Grayling to Cougar Creek, Yellowstone National Park

Arctic grayling, once widely distributed throughout the headwaters of the Missouri River Drainage are presently limited in distribution to Big Hole River in Montana. While grayling historically existed in several tributaries of the Madison River in Yellowstone National Park, evidence suggests that fluvial grayling populations in the park have been extirpated due to competition with non-native salmonids. Most historic grayling habitat is occupied by non-native trout. Dams and seasonal dewatering makes most large streams unsuitable for the species. One of the smaller creeks studied, Cougar Creek, provides about five(5) miles of low gradient, suitable habitat before reducing to ground seepage. On August 5, 1993, approximately 800 fluvial arctic grayling were released by helicopter into Cougar Creek under the direction of the U.S. Fish and Wildlife Service's Fisheries Assistance staff and NPS resource managers. The released fish were hatchery raised to 4-12 inches long and tagged prior to release in order to monitor their growth and survival. Additional stockings are planned for 1994 and 1995 to bolster population size and to encourage natural reproduction.

Management of Bull Trout Populations and Fisheries, Glacier National Park

Glacier National Park recently updated its fishing regulations with the specific goals of ensuring the long-term preservation of the park's unique native fishes. Park interpretive programs strongly encourage catch and release fishing for most native species, particularly in back country areas with black and grizzly bears. The use of artificial lures and flies is also encouraged to reduce hooking mortality on native trout.

Specific regulations were adopted requiring the immediate release of all bull trout and additional management studies were conducted to evaluate the status of bull trout in park waters. Surveys on Upper Kintla Lake focused on evaluating the microhabitat parameters important for the selection of bull trout spawning sites. At Lake McDonald, biologists are working to describe the food habits, movements, and habitat utilization of bull trout and other native species with those of some introduced trout species. In general, it is hoped that these studies at Glacier National Park, and those conducted in other units of the National Park System, will provide insight into mechanisms for restoring declining populations of bull trout in the Pacific Northwest and Rocky Mountain Regions.

Southwest Region

Pecos River Fish Contamination Survey,
Pecos National Historical Park

Several collections of native and exotic fishes from the Pecos River at Pecos National Historical Park were analyzed for environmental contaminants in 1992. These collections complemented a study being done by the New Mexico Game and Fish Department upstream of the park at the Terrero Mine facility. Interpretation of laboratory tests revealed elevated levels of cadmium, lead, mercury, arsenic, chromium, selenium, zinc, cooper, and polychlorinated biphenols (PCBs) in brown trout and white suckers. A sampling protocol was developed for FY 1993 in which edible fillets and whole fish tissue samples from brown trout and white suckers were analyzed for heavy metal and PCB levels. Water and sediment samples were also collected for analysis. The goals of this project are to document the levels of contamination in fishes within the park, to identify the risks of consumption by both humans and natural predators, and to assess the possible impacts of upstream mining wastes on park natural resources.

Southeast Region

Brook Trout Monitoring and Restoration,
Great Smoky Mountains National Park

The southern Appalachian Mountains have seen a general decline of native brook trout populations since about 1900. Perhaps the best documentation of this decline is in the Great Smoky Mountains National Park where heavy logging activities decimated brook trout activities prior to the park's designation in 1934. Introductions of non-native rainbow trout to fulfill the demands for recreational angling further contributed to the demise of the brook trout populations and now seriously limit its restoration.

Brook trout monitoring efforts in FY 1993 focused on a single watershed. Permanent sampling sites were established and upstream limits of brook trout were identified. Population densities and biomass estimates were made by electrofishing surveys on 11 streams within the watershed. Backpack electrofishing techniques were used to remove rainbow trout from a 3,800 meter reach of Lost Bottom Creek as part of an ongoing restoration effort. A total of 4,326 brook trout and 22 rainbow trout were collected by NPS biologists with the assistance of volunteers from several other organizations. Generally, efforts to restore native brook trout are limited to small streams with functional barriers to upstream movements of non-native rainbow trout.

A Fishery Management Plan was prepared in FY 1993 that details the overall management direction for the park and draws upon the cooperative efforts of fishery biologists with the states of Tennessee and North Carolina, and the U.S. Forest Service.

Assess Reef Fish Assemblages,
Virgin Islands National Park

Virgin Islands National Park is an International Biosphere Reserve supporting extensive coral reef development. Little is known about the reef fish assemblages inside the park and how these assemblages are effected by fishing and other human induced or natural processes. This project provides comparisons of reef fish assemblages subject to intensive fishing pressures outside of the park to those managed under restrictive regulations inside. Coral sites were surveyed and quantified based on reef size, slope, depth, percent of live coral, and overall structural complexity. Long-term monitoring of this resource will be needed to identify trends and management options.

Marine Gamefish Harvest Monitoring,
Everglades National Park

Recreational fishing has been an allowed activity at Everglades National Park since its establishment. A fishery monitoring program has been in place since 1958 and provides annual data on catch, harvest, and sizes of fish caught. Efforts in FY 1993 to monitor gamefish harvest were directed at obtaining recreational guided and non-guided fishery data from trip reports and by interviews with anglers at boat launching sites primarily at Flamingo and Everglades City.

In 1993, Everglades marine biologists were successful in assisting with the establishment of a federal-state cooperative program known as the Recreational Fisheries Information Network (RECFIN). This program will provide for the collection and management of recreational fishery data in the Gulf of Mexico, South Atlantic, and Caribbean Oceans. NPS will play a key role in defining the data collection and management activities of RECFIN and in solving some of the problems facing the marine fisheries in the southeast region.

Midwest Region

Monitor Fisheries at Voyageurs National Park

Fish populations and recreational fisheries have been cooperatively monitored at Voyageurs National Park by park staff and the Minnesota Department of Natural Resources since 1984. Shoreline seining and electrofishing are used to sample young-of-the-year and yearling fish while experimental gill nets are used to sample adult fishes. These data provide the basis for long-term monitoring of species composition, relative abundance, and length distributions for native fish species. These data are particularly useful in evaluating trends in the sportfishery and to evaluate the effects of regulating lake levels. Recreational fishing activities on Kabetogama Lake, Namakan Lake, Sand Point Lake, and Rainy Lake have averaged nearly 775,000 angler-hours/year since 1984. Walleye and northern pike are the principal species sought by recreational anglers.

National Capital Region

Cooperative Fishery Management Plan for Big Hunting Creek, Catoctin Mountain Park

Resource Managers at Catoctin Mountain Park have been cooperatively managing the exceptional trout fisheries of Big Hunting Creek with the Maryland Department of Natural Resources since 1936. On October 22, 1993 the Superintendent, the Manager of the adjoining Cunningham Falls State Park, and the Maryland Director of Freshwater Fisheries signed a Fisheries Management Plan to guide interagency coordination of management efforts. Big Hunting Creek is one of Maryland's most popular trout streams and is managed as a catch-and-return Special Fisheries Management Area under Maryland State fishing regulations. NPS resource managers conduct annual trout production surveys in Big Hunting Creek and all other park streams and coordinate their findings with state biologists. .

Mid-Atlantic Region

Native Brook Trout Management, Shenandoah National Park

The goals of native brook trout management at Shenandoah National Park are to maintain naturally occurring population levels and genetic integrity of native brook trout populations in all park streams, while allowing for high quality recreational angling. Brook trout population assessments were made on 20 streams in FY 1993 using standard backpack electrofishing techniques. Non-native brown trout were removed from three

streams but data continue to show an expansion of their range into brook trout habitat. A more aggressive brown trout control strategy must be devleoped if native brook trout fisheries are to persist and to provide for recreational fishing opportunities.

On-going studies at Shenandoah are also focusing on the impacts of acid deposition on stream macroinvertebrates and fish populations. Some studies have suggested that over 60 % of Virginia's brook trout fisheries are at risk from the effects of acid rain.

North Atlantic Region

Inventory Fisheries Resources,
Acadia National Park

Freshwater drainage systems in Acadia National Park originate in the central uplands and consist of small streams and brooks, interlaced with lakes, ponds, and marshes. There are approximately 30 lakes and ponds on Mount Desert Island and one on Isle au Haut. The last systematic fisheries survey the park's watershed was completed in 1920. Additional information has been collected by the State of Maine Department of Inland Fisheries and Wildlife as part of their programs to manage recreational fisheries in the Great Ponds. This project will provide a baseline inventory of all native and non-native fish species, provide a compilation of past fish stocking records, identify possible fish contaminants, and develop mitigation and management strategies.

Washington Office

Policies and Perspectives in Salmonid Fisheries Restoration

In an effort to gain national and international recognition of NPS's fisheries accomplishments, the Wildlife and Vegetation Division sponsored a technical session at the Annual Meeting of the American Fisheries Society. The Service's session on "Policies and Perspectives in Salmonid Fisheries Restoration: Managing the Non-natives" included speakers from all the major federal fisheries agencies in the United States and Canada, State and Provincial governments, sportfishing interest groups, and non-profit fisheries organizations. The session sought to provide a balanced perspective on the complex issues surrounding trout and salmon population restoration. The session was well attended and all reports indicate that it met its objectives of providing a productive forum to review and discuss these issues and for elevating NPS's stature in the professional fisheries community.

Cooperative Agreements Bring New Opportunities

Forging new and maintaining existing cooperative agreements with other fisheries organizations was an important task during FY 1993. Our continuing agreement with the American Fisheries Society yielded publication of a new professional book on "Inland Fisheries Management in North America." Copies of this handy reference were provided to all regional offices and all fishery and aquatic biologists throughout the service. A new cooperative agreement is being developed with the American Association of Zoological Parks and Aquariums to improve opportunities for joint conservation of native North American freshwater fishes.

Support of National Fishing Week

The goals of National Fishing Week are to get people fishing, to make them aware of the family values provided by the activity, and to instill upon them, the needs to conserve aquatic and marine resources. During 1993, the NPS maintained its association with the National Fishing Week Steering Committee. This committee organized and directed the development of the NFW theme and provided interpretive materials to NFW cooperators. The WASO Fisheries Program Manager assisted the committee in organizing the flagship event for NFW on the grounds of the Jefferson Memorial on June 7, 1993. A cooperative "Pathway to Fishing" event involving nearly 150 school children from the District of Columbia was organized by the National Park Service, U.S. Fish & Wildlife Service, and the District of Columbia Fisheries Office. A report summarizing the servicewide efforts in support of this national program indicated that a total of 6,774 park visitors participated in 61 events in 28 park units during National Fishing Week.

For Further Information about this Report or the National Park Service's Fisheries Program contact:

Dr. Frank M. Panek
Fisheries Program Manager
National Park Service
Wildlife and Vegetation Division
P.O. Box 37127
Washington, D.C. 20013
(202) 343-1002
(202) 343-8137 fax

Appendix I

Fiscal Year 1993

Funded Fisheries Projects

FISCAL YEAR 1993 FUNDED FISHERIES PROJECTS

REGION AND PARK	PROJECT NAME	FUNDING	NPS FTE
ALASKA REGION			
Denali National Park	Fisheries program planning	$2,000	0.1
Glacier Bay National Park and Preserve	Affects of commercial fishing on Dungeness crab population structure	$84,000	0.7
	Monitor commercial fisheries	$28,280	0.7
	Pacific halibut mark–recapture study	$28,280	0.8
	Pacific halibut tagging (movement) study	$69,934	1.4
	Pacific halibut food habits	$26,000	0.7
	Database development and characterization of stream systems	$10,600	0.4
Katmai National Park and Preserve	Naknek River sockeye salmon smolt study	$35,000	0.5
	Effects of jet–driven and propeller driven boat turbulence on salmon reproduction	$9,000	0.2
Kenai Fjords National Park & Preserve	Colonization and community development of aquatic invertebrates and salmon in fjords	$27,500	0.1
Noatuk National Preserve	Spawning run characteristics of Dolly Varden in the Kugururok River	$70,800	0.1
Regional Total		$391,394	5.7
PACIFIC NORTHWEST REGION			
Crater Lake National Park	Restore Bull Trout to Sun Creek	$37,000	1.1
	Crater Lake ecosystem study	$232,000	3.3
	Ecology of rainbow trout and kokanee salmon in Crater Lake	$10,000	0.3
Lake Chelan NRA	Develop Fishery Management Plan	$1,000	0.1
North Cascades National Park	Determine the effects of fish stocking in high elevation ponds and lakes	$243,900	4.6

FISCAL YEAR 1993 FUNDED FISHERIES PROJECTS

REGION AND PARK	PROJECT NAME	FUNDING	NPS FTE
North Cascades National Park (cont'd)	Cooperative management of tributaries	$6,000	0.1
	Anadromous fisheries protection	$5,000	0.1
	Monitor resident fish populations in streams	$9,000	0.2
	Monitor fish populations in Skagit River	$7,000	0.6
Olympic National Park	Monitor harvested shellfisheries	$4,000	0.1
	Monitor harvested anadromous fish stocks	$4,000	0.1
	Monitor native salmonids in Lake Cresent	$2,000	0.0
Regional Total		$560,900	10.6
WESTERN REGION			
Death Valley National Monument	Develop pupfish monitoring program	$15,000	0.2
Lake Mead NRA	Manage Lake Mead fisheries	$8,000	0.0
Point Reyes National Seashore	Reintroduce salmon and steelhead in coastal streams	$500	0.1
Redwood National Park	Summer and winter monitoring of streams	$110,000	3.2
	Juvenile chinook salmon and steelhead rearing in Redwood Creek estuary	$38,000	1.1
	Salmonid spawning and carcass stream surveys	$30,000	0.9
	Summer steelhead survey	$6,000	0.2
	Stream improvement assessments on Bridge Creek	$20,000	0.6
Yosemite National Park	Merced River habitat and fisheries restoration project	$28,800	0.5
Regional Total		$256,300	6.8
ROCKY MOUNTAIN REGION			
Regional Office	Colorado River Endangered Fish Management	$226,000	1.0

FISCAL YEAR 1993 FUNDED FISHERIES PROJECTS

REGION AND PARK	PROJECT NAME	FUNDING	NPS FTE
Glacier National Park	Biology of bull trout in Upper Kintla Lake	$5,000	0.5
	Reconstructing the population history of native westslope cutthroat trout in Avalanche Lake	$2,000	0.1
	Effects of 1988 Red Bench Fire on aquatic biota	$10,000	0.2
	Update and revise fishing regulations	$0	0.4
Rocky Mountain National Park	Computerizing Fisheries Data	$0	0.1
	Restoration of threatened greenback cutthroat trout	$8,000	0.1
	Conduct parkwide creel census	$0	0.7
Capitol Reef National Park	Survey aquatic resources in Fremont River	$5,000	0.3
Devils Tower National Monument	Fish survey of Belle Fourche River	$1,000	0.1
Glen Canyon NRA	Develop cooperative Fishery Management Plan	$3,500	0.1
	Manage endangered native fishes	$6,000	0.2
Canyonlands National Park	Address management conflicts of T&E fishes	$5,000	0.1
Zion National Park	Native fisheries management in the Virgin River Basin	$2,500	0.1
Yellowstone National Park	Manage Yellowstone Fisheries (FWS)	$160,000	0.0
Regional Total		$434,000	3.0
SOUTHWEST REGION			
Chickasaw NRA	Preliminary fisheries surveys	$1,000	0.0
Pecos National Monument	Pecos River fish contamination study	$8,860	0.1
Buffalo National River	Develop Fishery Management Plan	$3,500	0.1
Regional Total		$13,360	0.2

FISCAL YEAR 1993 FUNDED FISHERIES PROJECTS

REGION AND PARK	PROJECT NAME	FUNDING	NPS FTE
MIDWEST REGION			
Voyageurs National Park	Conduct fisheries research and management	$71,000	1.6
Isle Royale National Park	Monitor coastal brook trout populations	$1,000	0.1
Pictured Rocks National Lakeshore	Develop Fishery Management Plan	$5,000	0.1
Regional Total		$77,000	1.8
SOUTHEAST REGION			
Biscayne National Park	Cooperate with state in fisheries management	$13,500	0.1
Everglades National Park	Monitor gamefish populations	$10,000	0.4
Great Smoky Mountains National Park	Brook trout monitoring program	$95,000	0.5
	Large stream fish monitoring and creel census	$13,000	0.5
	Fisheries information and education	$6,200	0.2
	Brook trout genetics	$34,900	0.4
	Threatened and endangered fish monitoring	$4,000	0.1
	Restoration of Lost Bottom brook trout	$3,000	0.2
Virgin Islands National Park	Assess reef fish assembleges	$241,000	2.0
Regional Total		$420,600	4.4
NATIONAL CAPITAL REGION			
Catoctin Mountain Park	Manage coldwater fisheries	$10,000	0.3
Regional Office	Assess damages of Sugarland Run oil spill	$2,000	0.1
Regional Total		$12,000	0.4

FISCAL YEAR 1993 FUNDED FISHERIES PROJECTS

REGION AND PARK	PROJECT NAME	FUNDING	NPS FTE
MID-ATLANTIC REGION			
Shenandoah National Park	Native brook trout management	$10,000	0.5
Delaware Water Gap NRA	Develop a fishery management program	$148,000	4.1
Valley Forge National Historical Park	Assess toxic chemicals in Valley Creek	$37,000	0.1
Regional Total		$195,000	4.7
NORTH ATLANTIC REGION			
Acadia National Park	Inventory fisheries resources	$30,000	0.1
Gateway NRA	Survey marine finfish at Sandy Hook	$3,300	0.1
Regional Total		$33,300	0.2
WASHINGTON OFFICE			
Wildlife and Vegetation Division	Program administration and management	$66,700	1.0
	Support for American Fisheries Society Cooperative Agreements	$7,500	0.0
Regional Total		$74,200	1.0
SERVICE TOTAL		$2,468,054	38.8