

FEDERAL AID IN SPORT FISH RESTORATION
A REPORT ON
WALLOP-BREAUX SUCCESSES AND OPPORTUNITIES

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For
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INTRODUCTION

The Federal Aid in Sport Fish Restoration Act, sponsored by Congressman John Dingell and Senator Edwin Johnson, was enacted in 1950, having been modeled after the Federal Aid in Wildlife Restoration Act, passed in 1937. The Sport Fish Restoration Program proved to be an extremely valuable source of funding for fisheries work important to the states. By the late 1970s, expanded efforts by the states to address fisheries problems and needs began to outpace the availability of funds. Efforts began in 1979 to increase the revenues collected through the program. By 1984, sufficient support was garnered to allow passage of an amendment to the Sport Fish Restoration Act, sponsored by Senator Malcomb Wallop and then Congressman John Breaux. That amendment provided for a three-fold increase in revenues under the Act in its first year, amounting to \$122 million. Growth in revenues has continued through 1990, with a 1991 level of just under \$360 million. This figure includes revenues collected under the 1990 amendment to the Act which provides for a major wetlands restoration, management, and enhancement program.

MARINE FISHERIES MANAGEMENT-STATUS

Traditionally it has been thought that the magnitude of commercial fisheries activities overshadowed those of the recreational sector, to the point that management information such as fishing harvest and effort and other pertinent data were not required for the recreational sector. It has become increasingly clear that such is not the case, as participation, harvest, and impact on fishery resources from recreational activities has increased significantly in the past two decades.

The dramatic increase in recreational fishing activities created a need for data by which to formulate and initiate management actions needed to insure long term survival and availability of important marine fish species. Such species include, but are not limited to, red drum, spotted seatrout, flounders, black drum, sheepshead, striped bass, the mackerels, reef fishes, croaker, and spot. All of these species are thought to be in need of management actions which will decrease total fishing and habitat related mortality. This situation places a great burden on the available manpower and funding of the states. Sport Fish Restoration funds play a vital role in that regard.

WALLOP-BREAUX AMENDMENT TO THE FEDERAL AID IN SPORT FISH RESTORATION ACT

America's sport fisheries received a great boost with the passage of the 1984 Wallop-Breaux Amendments to the Federal Aid in Sport Fish Restoration Act. One of the major purposes of the legislation is to conserve and restore America's sport fishery resources and provide enhanced fishing opportunities for the nation's anglers.

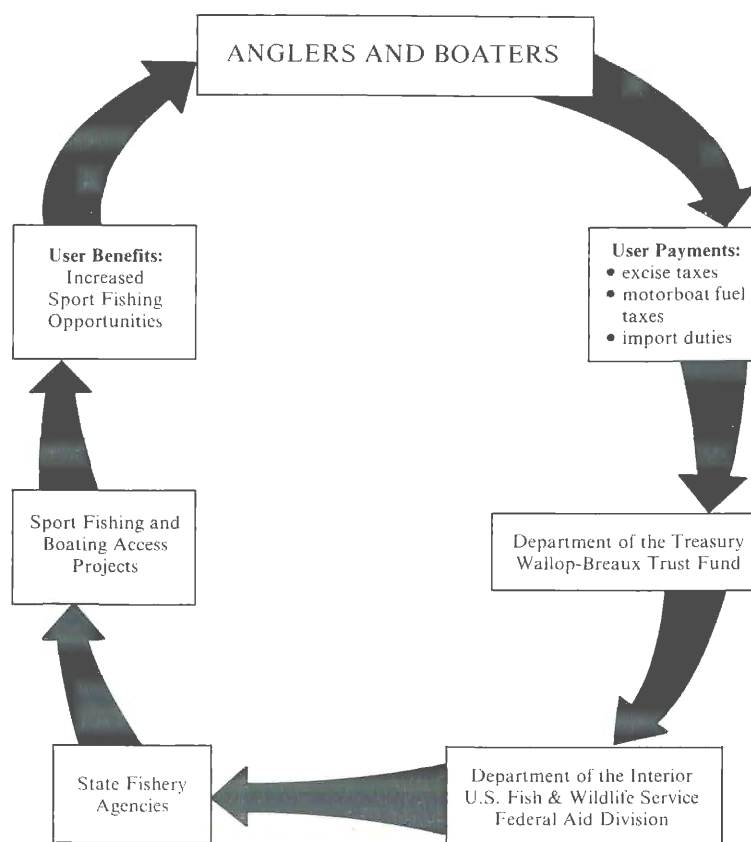
The Wallop-Breaux Legislation

The Wallop-Breaux Amendments to the Federal Aid in Sport Fish Restoration Act were key provisions of the entire Tax Reform Act of 1984. The Wallop-Breaux Amendments created the Aquatic Resources Trust Fund and greatly expanded the highly successful Federal Aid in Sport Fish Restoration Act, also known as Dingell-

Johnson or D-J. The Wallop-Breaux Amendments enlarged the original D-J constituency from sport anglers to include the boating community, transferring federal motor boat fuel tax receipts and import duties on pleasure boats and yachts into the Aquatic Resources Trust Fund. The Fund was created with two accounts to service the two constituencies, namely the Boat Safety Account and the Sport Fish Restoration Account. Together, these accounts received about \$265 million in 1990, split \$60 million to Boat Safety and \$205 million to Sport Fish Restoration.

A user pays/user benefits approach is the key element of the Wallop-Breaux Program (Figure 1). This user pays/user benefits program pledges the transfer of fishing and boating excise taxes and motorboat gas taxes (user pays) to the improvement of boating and fishing programs (user benefits).

Figure 1. Cycle of Federal Aid in Sport Fish Restoration Funding:
"User Pays - User Benefits"



This user pays/user benefits approach has sustained public support for the program because the taxes paid lead directly to improved fishing and boating.

Beyond the user pays/user benefits concept, two other features of the Wallop-Breaux legislation are particularly important for Gulf of Mexico fisheries programs. The first concerns the split of funds between marine and freshwater projects within coastal states. Project expenditure requirements which are based on the amount of angler participation in different fisheries provide for an equitable distribution of funds between freshwater and saltwater projects in coastal states. These expenditure requirements emphasize the importance of marine recreational fisheries and the vital role that the states play in marine fisheries conservation.

The second feature of the Wallop-Breaux legislation that is important for marine fisheries allows for the use of administrative funds and cooperative grants to develop multi-state sport fish restoration projects. This multi-state project option is pertinent to Gulf sport fisheries because the great majority of these fisheries are based on migratory species which cross state boundaries. In particular, special projects carried out through interstate compacts such as the Gulf States Marine Fisheries Commission (GSMFC) and funded under the 6 percent administrative portion of the program have been of great benefit to the states in the management of these interjurisdictional fishery resources.

A 1990 Wallop-Breaux Amendment

In 1990, changes in the tax system again became the vehicle for important changes to the Sport Fish Restoration program. Legislation was passed which increased the amount of money deposited into the Aquatic Resources Trust Fund, (popularly known as the Wallop-Breaux Trust Fund) and new expenditures were authorized for new purposes.

With regard to the increase in deposits to the Trust Fund, the fishing and boating community through the American League of Anglers and Boaters crafted new language that prevented diversion of funds from the Sport Fish Restoration Account. The language accomplished two aims: 1) it protected the increase in the federal excise tax on gasoline that Congress passed as a budget reduction measure; and, 2) it captured, for the first time, federal gasoline taxes paid by users of small, non-highway gasoline engines.

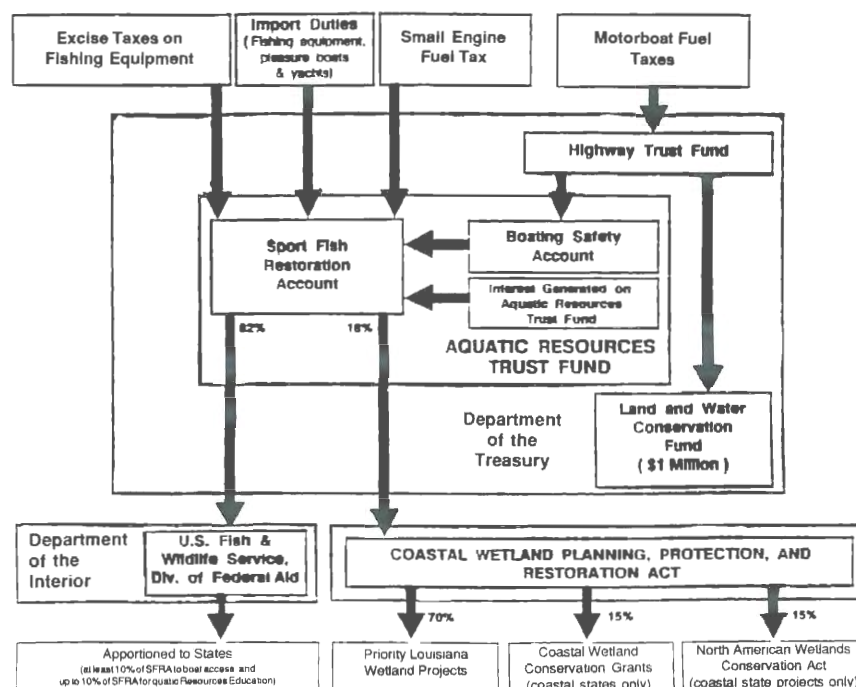
The first increase in Sport Fish Restoration funds was due to the federal tax on gasoline which was increased from nine cents per gallon to 14 cents per gallon. One half of this five cent increase was earmarked for deposit into the Highway Trust Fund, while the remaining half was dedicated to deficit reduction. The Aquatic Resources Trust Fund automatically receives 1.08 percent of all funds going into the Highway Trust Fund. This 1.08 percent is the proportion estimated by the Department of the Treasury to be attributed to boaters in the United States. The new 2.5 cents per gallon tax will generate an estimated \$25-\$26 million increase in fiscal year 1992, and approximately \$31 million, thereafter.

The second new source of monies acquired for the Aquatic Resources Trust Fund was the federal fuel tax attributable to the use of small, gasoline-powered off-road vehicles. Examples are lawn mowers, grass trimmers, leaf blowers, snow blowers, and similar types of equipment. Prior to the action taken in the 1990 Congress, these funds were flowing into the Highway Trust Fund and were being used for highway construction purposes. By earmarking these monies for the Aquatic Resources Trust Fund, an estimated \$44 million of new money will flow into the fund in fiscal year 1992 and approximately \$50 million/year, thereafter.

The result of these Wallop-Breaux Amendments was not only an increase in funds, but a change in the structure of the Aquatic Resources Trust Fund because Congress also authorized new expenditures from the Sport Fish Restoration Account of the Trust Fund. Specifically, the legislation requires the expenditure of 18 percent of the total amount of funds that flow into the Sport Fish Restoration Account each year for the Coastal Wetlands Planning, Protection and Restoration Act. This will require the expenditure of approximately \$45 million in fiscal year 1992 and approximately \$47 million per year, thereafter. Expenditures under the new Coastal Wetlands Planning, Protection and Restoration Act, will be divided into three programs. Seventy percent of the funds will be invested in Louisiana wetland restoration projects, a program to be operated by the U.S. Army Corps of Engineers. A second coastal program will receive 15 percent of the total available funds and will be used by the Director of the U.S. Fish and Wildlife Service to make grants available to any coastal state, including Great Lake states, to undertake coastal wetlands conservation projects. The final program will spend 15 percent of the wetlands restoration money on wetlands conservation projects established under the North American Wetlands Conservation Act.

The 1990 amendments to the Wallop-Breaux Federal Aid in Sport Fish Restoration Act resulted in a significant increase in the total amount of money flowing into the Trust Fund and a significant change in the structure of the program (Figure 2). The amendments also, for the first time, dedicate a significant portion of the receipts for projects other than for direct fishing and boating-related purposes. Although some fishing industry groups considered this a violation of the user pays/user benefits principle, the new legislation did recognize that wetlands restoration and protection, properly planned with a fisheries perspective, will benefit the fishing community. The connection between improved wetlands and better fisheries is especially strong on the Gulf coast where over 80% of important marine sport fish species are dependent on estuarine and wetland habitats during some stage of their life cycle.

Figure 2. Structure of the Aquatic Resources Trust Fund, As Amended Through 1990



GULF OF MEXICO SPORT FISH RESTORATION BENEFITS

Fishery Management Plans: Research, Monitoring, and Assessment

In order for the Sport Fish Restoration Program to restore marine and anadromous sport fisheries, there must be solid plans for the future. The federal and state government agencies, other conservation organizations, and the general public must develop and adhere to fishery management plans that identify the future needs of the resources and the users. Under the present fishery management system, recreational fish species occur in both state and federal waters, and can be managed through state, interstate, or federal management systems. By contributing to fishery management projects, the Sport Fish Restoration Program has assisted the states in improving conservation of marine fishery resources and invested in long-term marine sport fish restoration.

State research and monitoring projects on recreationally important finfish species have contributed to the development and implementation of fishery management plans, particularly red drum and spotted seatrout. Those activities have also contributed to the enactment of regulations needed to address specific management goals. Vital work has also been done to support interstate fishery management plans developed by the Gulf States Marine Fisheries Commission for Spanish mackerel and striped bass. Those plans were developed under the auspices of the Sport Fish Restoration Program. Other efforts, such as cobia research, are vital to fishery management plans under federal jurisdiction.

Sport fish creel efforts, particularly in Texas and Mississippi, have been vital data gathering mechanisms for information that would otherwise not be available regarding the magnitude of harvest and effort related to recreational fishing. Also accomplished under the Program is an indepth review and analysis of recreational fishery data collection programs and needs, coordinated by the Gulf States Marine Fisheries Commission. A significant recommendation resulting from that effort is for the state agencies to become more directly involved in region-wide/nation-wide data collection. A proposed state-federal cooperative data collection program called the Recreational Fisheries Information Network (RecFIN) is being considered by the National Marine Fisheries Service to address that recommendation.

Fisheries Enhancement

The ability of the states to conduct marine fishery enhancement projects has been greatly increased due to the Sport Fish Restoration Program. Such projects focus mainly on three types of activities: artificial reefs, access projects, and fish culture and stocking.

In each state bordering the Gulf of Mexico, the Sport Fish Restoration Program has contributed significantly to artificial reef activities. Important projects range from the development and implementation of a state artificial reef program, to construction, monitoring, and maintenance. In excess of one hundred permitted artificial reef sites can be attributed to the program. Two state plans have been developed and implemented with another pending. Research projects addressing such questions as placement, materials performance, and fish assemblages also contribute significantly to our understanding of how artificial reefs work.

Access points such as piers and boat ramps are vital to the fishing public and to the overall success of individual state fishing enhancement programs. In the past several years, over 50 coastal fishing access facilities have been constructed, and many others have been repaired and upgraded under the program. With the acknowledgement of increasing participation of physically handicapped individuals in recreational fishing activities, the need to upgrade access facilities to accommodate this growing user group is increasing. The Sport Fish Restoration Program is the only consistent source of support through which to accomplish this needed function.

As a part of any comprehensive restoration program, fish culture and stocking play a vital role. The Sport Fish Restoration Program has made possible such activities in each Gulf State. Texas has addressed red drum, spotted seatrout, tarpon, and snook. Mississippi has addressed red drum, striped bass, and cobia. Alabama has worked on striped bass and Gulf of Mexico sturgeon, as has Florida. Florida has also conducted a project to compare the survival of hatchery reared versus wild stock fish. Without this important source of financial support, the states would not be able to conduct these projects, and realization of the goal of restoration of fisheries would be in jeopardy.

CHALLENGES AND OPPORTUNITIES

Probably the most important aspect of the Program is the "user pay/user benefit" philosophy built into the legislation. All Gulf States agree that maintaining this approach is vital to the continued success of the Program. In the past several years, several attempts have been made by the Office of Management and Budget and the U.S. Congress to divert funds from the Aquatic Resources Trust Fund. Such efforts are in direct opposition to the "user pay/user benefit" concept, and were defeated by a large and diligent coalition of supporters. It is vital that such future efforts likewise be defeated.

Since this is a program supported by user dollars, it is appropriate that the taxpayers and support industry components be viewed as partners in the program. This being the case, a greater effort should be expended to increase the public's awareness of the finite nature of fish stocks and the direct interdependence of those fish stocks on habitat and the environment. Through greater educational efforts, the public can be more informed as to the complex nature of natural resource management, along with other important issues such as fishing ethics and the need for fishery regulations.

It is clear that as population levels, particularly those within fifty miles of the coastline, continue to increase, the probability of increased pressure on fish stocks and the environment increases. This scenario points out the importance of having programs in place to counteract negative, man-made effects, but even more to have monitoring, data collection, and research programs in place which will allow state and federal management programs to be proactive rather than simply reactive. The Sport Fish Restoration Program represents the most stable source of fiscal support for those activities yet available, and therefore is absolutely essential to achieving conservation and management goals.

SUMMARIES OF SPORT FISH RESTORATION ACTIVITIES AND ECONOMIC BENEFITS OF SPORT FISHING ACTIVITIES IN THE GULF STATES

The following section of this report highlights sport fish restoration projects and economic benefits of sport fishing for each Gulf State. Both freshwater and saltwater projects are included so that marine projects can be viewed in the context of each state's total Sport Fish Restoration Program. The marine projects are aimed at improving both the condition of fish stocks and the environment and the ability of the fishing public to engage in successful recreational fishing activities.

Sport Fish Restoration Program investments in fishery conservation have provided outstanding benefits not only for fishermen in the Gulf of Mexico region, but also for the sport fishing and boating industries, other outdoor recreationists, non-fishing businesses, and the local community. As noted by the Sport Fishing Institute, Sport Fish Restoration funds account for 34% (on average) of all states sport fishery incomes. The \$200 million that the states received from the account in 1990 provided for 60 million anglers (\$3.33 per angler). This minimum amount of money invested per angler supported fisheries that generated over \$30 billion in economic activity.

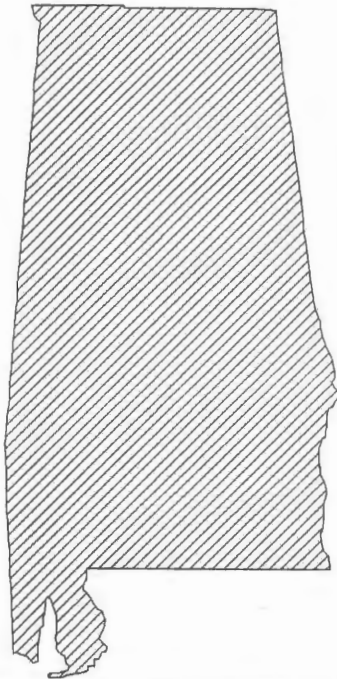
Although much progress has been made through the Sport Fish Restoration Program, many Gulf of Mexico and other U.S. fisheries remain under great stress. In trying to address these and other needs, program changes have been suggested by the U.S. Congress, the fishing industry, and other members of the fishing and boating community. While any type of program can always be improved, proposed changes to the Sport Fish Restoration Act should be within the existing program framework which is based upon providing direct benefits to the resource and its users. Fishery conservation restoration, and management efforts will require a long-term commitment, one that is best exemplified by the partnership among the public, industry, and government in pursuing the tenets of the Sport Fish Restoration Program. Recent accomplishments of the Program have demonstrated that further investment in existing activities will result in improved Gulf of Mexico sport fisheries and increased fishing opportunities for the public.



HIGHLIGHTS OF SPORT FISH RESTORATION IN: **ALABAMA**

U. S. Fish and Wildlife Service, Division of Federal Aid

March 1, 1991



Current Projects

1990 - 1991

(Statewide and by Congressional Districts)

SOUTHEASTERN COOPERATIVE FISH DISEASE PROJECT

\$ 6,000.00

Member of an 8 state cooperative contract with Auburn University to provide fish disease diagnostic services and provide fish disease training.

DISTRICT(s): Statewide

TECHNICAL ASSISTANCE - FISHERIES

\$ 195,000.00

To provide technical guidance to pond and lake owners; to provide survey of planned alteration projects and guidance to government agencies; to investigate and document fish kills and water pollution reports.

DISTRICT(s): Statewide

STATEWIDE SURVEYS AND INVENTORIES OF FISHERIES RESOURCES AND FISHERMEN

\$ 412,500.00

To perform fish population, aquatic management, angler creel and attitude surveys.

DISTRICT(s): Statewide

Reservoir Fish Population Monitoring

To establish baseline data on important fish species in large impoundments. The data will be used to formulate management plans to improve fish populations and fishing quality.

Creel And Angler Surveys

To determine angler resource use, preferences, and attitudes.

To provide a database of information that can measure changes in fishermen use patterns over the years.

FISH MANAGEMENT COORDINATION

\$ 168,750.00

To administer the statewide freshwater sport fish restoration program.

DISTRICT(s): Statewide

ECONOMIC BENEFITS OF ALABAMA SPORT FISHING

Total Benefits = \$ 804.4 million

Produced by:

**Angler
Expenditures** = \$ 519.1 million

Public Benefits:

State Sales Tax = \$ 26.5 million

State Income Tax = \$ 9.97 million

License Revenue = \$ 4.2 million

**Wallop - Breaux
Revenue** = \$ 3.2 million

Private Benefits:

Earnings = \$ 249.2 million

Full Time Jobs = 16,754

**INVESTIGATIONS OF MANAGEMENT
TECHNIQUES FOR PUBLIC FISHING
WATERS**

\$ 264,911.00

Cooperative agreement with Auburn University, Department of Fisheries and Allied Aquacultures, to perform statewide fisheries studies.

DISTRICT(s): Statewide

Evaluating Crappie Fisheries On Four Alabama Reservoirs

To document age and size structure and relate to abundance, year class strength, relative condition and growth; to determine rates of harvest and angler attitudes. Provide information on public use and demand for sport fish that will aid in the determination of programs or actions to meet the demand.

Key Limnological Factors Related To Fish Management Of Large Impoundments

Identify key limnological factors useful in predicting condition of sport fisheries in reservoirs.

Provide information to assist the public, resource managers, and others in interpreting, understanding and utilizing research results.

Analysis Of The Smallmouth Bass Fishery In The Tennessee River (Wilson Reservoir)

To determine the basic life history characteristics of smallmouth bass and associated bass species in Wilson Reservoir below the dam.

Provide information on the abundance, condition, or factors which affect sport fish populations and to develop population and habitat management practices.

Fishery Resources In Alabama Rivers And Streams

Quantify the species composition, relative densities, seasonal dynamics of fish communities, relationships between river habitat and fish communities; document changing characteristics of fish communities; identify river habitat characteristics associated with recovery of riverine fishes in highly modified river segments; develop general model that summarizes effect of river modifications on fishery resources and factors that mitigate these effects.

To be used to overcome or moderate biological limiting factors that affect the growth or well-being of sport fish populations.

Evaluation Of Two Techniques For Sampling Shad And Shad Dynamics In Water Of Varying Fertility

To evaluate two techniques for sampling shad in open reservoir waters; to determine the population dynamics of shad in reservoirs of varying fertility.

STATE LAKES MANAGEMENT \$ 375,000.00

To operate and maintain the statewide public fishing lakes program.

DISTRICT(s): Statewide

ENHANCEMENT OF RECREATIONAL FISHING IN COASTAL ALABAMA \$ 388,500.00

To perform research and surveys of coastal and marine sport fishes; to renovate existing boat basin and water intake for mariculture center; to operate and maintain the mariculture center; to manage the artificial reef program.

DISTRICT(s): 01

Development Of Indices Of Post-larval And Juvenile Finfish Relative To Adult Finfish Captured By Recreational Anglers.

To develop indices reflecting the relationships between the post-larval and juvenile finfish and their adult counterparts.

Be used to assess research technique to determine its effectiveness toward accomplishment of management goals.

Development Of Rearing Techniques For Production Of Phase II Red Drum For Tagging And Release

To rear, tag and release into coastal waters; to monitor movement, growth, and survival; to develop data base for evaluation of natural stocks.

Be used to overcome or moderate biological limiting factors that affect the growth or well-being of sport fish populations.

Captive Artificial Spawning Of Red Snapper

To refine spawning techniques and develop larval rearing techniques; to tag fingerlings and release on artificial reefs for development of data base on movement and recreational catches.

Be used to assess research techniques to determine their effectiveness toward accomplishment of management goals.

Striped Bass Study

To rear, tag and release in coastal waters; to monitor movement, growth, and survival; to develop data base for evaluation of stocking and management strategies. Provide information on public use and demand for sport fish that will aid in the determination of programs or actions to meet the demand.

Characterization Of By-catch Of Valuable Recreational Finfish By The Trawl Fishery

To collect data to characterize by-catch by trawl fishery; to develop indices of relationships between post-larval and juvenile finfish abundance to adult fish capture; to evaluate potential fish excluder devices for 16 foot trawl. Provide information to assist the public, resource managers, and others in interpreting, understanding and utilizing research results.

STATEWIDE FISHERIES DEVELOPMENT \$ 183,750.00

To maintain and repair 107 existing boating access sites on inland public waters.

DISTRICT(s): Statewide

MARION AND EASTABOGA HATCHERIES RENOVATIONS \$ 375,000.00

To renovate two state hatcheries.

DISTRICT(s): 03,07

GRANT COORDINATION AND ADMINISTRATION IN COASTAL ALABAMA \$ 75,000.00

To coordinate and administer all marine sport fish restoration and enhancement activities in coastal Alabama.

DISTRICT(s): Statewide

ALABAMA AQUATIC EDUCATION \$ 225,000.00

To conduct an aquatic education program for Alabama fishermen. To do a needs survey to determine knowledge levels. To hire a project leader for aquatic education.

DISTRICT(s): Statewide

ALABAMA FISH GUIDE BOOK \$ 40,000.00

To produce a final manuscript suitable for publication on the fishes of Alabama for a multiple user audience.

DISTRICT(s): Statewide

COOPERATIVE STATISTICS PROJECT \$ 6,525.00

To develop statistical methods of design and application for specific problems involving fish and wildlife; to provide consultation services to cooperating States.

DISTRICT(s): 02

**GAME AND FISH DIVISION OFFICE
FACILITY LAND ACQUISITION** \$ 61,313.00

To acquire 25 acres in Montgomery County Alabama for a headquarters site for the entire Game and Fish Division.

DISTRICT(s): Statewide

**Specific Development Projects
from 1987 - 1989**

STATEWIDE

**FISHING AND BOATING ACCESS - COASTAL
ALABAMA** \$ 105,000.00

Project covers spotted sea trout tagging and coastal boating access.

DISTRICT 01

STATEWIDE FISHERIES RESEARCH PROJECT \$ 36,000.00

To determine age, growth and food habits of hybrid striped bass in the Mobile Delta. To evaluate Florida largemouth bass introductions into public waters. To determine factors that affect survival for striped bass and hybrids in hatchery ponds. To begin testing of three bluegill strains.

**ENHANCEMENT OF RECREATIONAL
FISHING AND BOATING ACCESS IN
COASTAL ALABAMA** \$ 238,950.00

To enhance recreational fishing in coastal Alabama, and improve public information by data gathered from the release and recapture of tagged spotted seatrout and snook; to develop better boating access areas; to improve on the present culture facilities utilized in the production of the above named fishes.

DISTRICT 07

MARION HATCHERY RESTORATION \$ 112,500.00

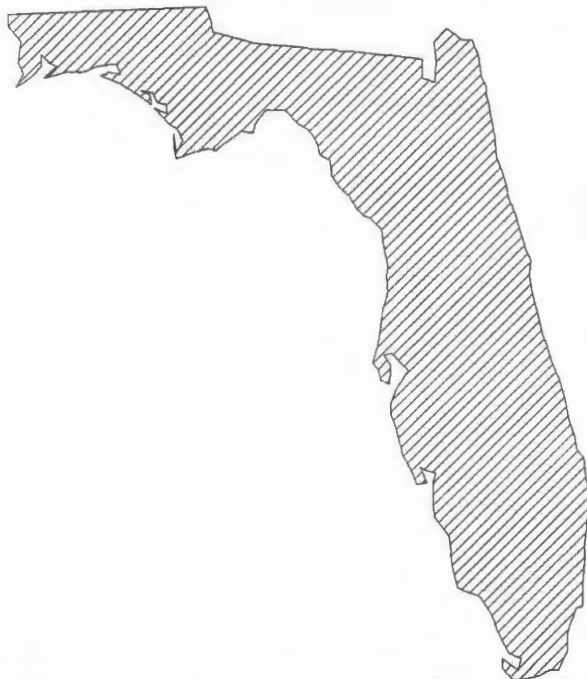
For Renovation of the Marion Hatchery.



HIGHLIGHTS OF SPORT FISH RESTORATION IN: FLORIDA

U. S. Fish and Wildlife Service, Division of Federal Aid

March 1, 1991



Current Projects

1990 - 1991

(Statewide and by Congressional Districts)

DINGELL-JOHNSON COORDINATION \$ 155,832.00

To administer freshwater Florida's Dingell-Johnson Program.

DISTRICT(s): Statewide

LARGEMOUTH BASS INVESTIGATION \$ 117,770.00

To investigate population dynamics of largemouth bass and develop techniques to enhance trophy size bass.

DISTRICT(s): Statewide

OKLAWAHA BASIN FISHERIES INVESTIGATIONS \$ 115,614.00

To measure and evaluate biological parameters and management procedures which may effect the success or failure of sport fish populations in the Oklawaha basin of lakes (i.e., Lake Griffin and Harris), and the water quality prior to and after draw-down in Lake Griffin.

DISTRICT(s): 06

Fisheries Studies Of The Oklawaha Chain Of Lakes

To evaluate the post-draw-down status of sport fish populations in Lake Griffin and investigate means of prolonging the beneficial effects.

Lake Apopka Fisheries Studies

To evaluate the current status of fish populations in Lake Apopka.

ST. JOHNS RIVER FISHERY RESOURCES \$ 404,364.00

To collect and correlate biological and limnological information as it relates to the sport fishery resources, and management of the St. Johns River fishery resources; to investigate causes for the decline in the sport fisheries for largemouth bass, catfish, and hybrid striped bass in the upper St. Johns River; to develop the capability to predict year class strength; and to determine if biological and regulatory management measures are needed to insure the future of a productive sport fishery.

DISTRICT(s): 04

Top Level Predator Sport Fish Investigations On The Lower St. Johns River

To determine if biological and regulatory management measures are needed to assure the future of a productive sport fishery.

Investigation Of Black Crappie Year Class Fluctuations On Lower St. Johns River To develop the capability to predict year class strength.

ECONOMIC BENEFITS OF FLORIDA SPORT FISHING

Total Benefits = \$ 4.2 billion

Produced by:

Angler Expenditures = \$ 3.1 billion

Public Benefits:

State Sales Tax = \$ 126.8 million

License Revenue = \$ 5.6 million

Wallop - Breaux Revenue = \$ 3.9 million

Private Benefits:

Earnings = \$ 1.4 million

Full Time Jobs = 86,584

Investigation Of Sport Fisheries Decline In The Upper St. Johns River

To investigate causes for the decline in the sport fisheries for largemouth bass, catfish and hybrid stripes in the upper St. Johns River.

Sport Fisheries Ecology And Impact Of Corps Of Engineers Upper St. Johns River Basin Plan

To document physicochemical factors of the aquatic habitat which affect the fishery.

Creek Census Studies Of The Lower St. Johns River

Determine sport fish harvest, effort and success rates in selected areas of the lower St. Johns River.

NORTH FLORIDA STREAMS RESEARCH \$ 227,711.00

To investigate the aquatic ecology of Florida streams so as to monitor and evaluate fish populations and communities of northwestern Florida for development of sport fisheries management strategies and enhancement.

DISTRICT(s): 01

Escambia River Creek Survey

To characterize the recreational fishery of the Escambia River.

Perdida Bay Drainage Survey

To survey fish communities of the Perdido Bay drainage.

Centralized Fishery Research: Lakes

To improve the quality of panfish and largemouth bass fisheries of Karick Lake.

Fish Community Analysis

To develop an index of biotic integrity for Floridian riverine fish communities.

Morone Fishery Research: Rivers

To determine survival of introduced fingerlings.

Morone Fishery Research: Lakes

To evaluate survival of introduced fingerlings.

Centrarchid Fishery Research: Rivers

To improve the quality of the largemouth bass fishery in the lower Escambia River.

OCHLOCKONEE RIVER WATERSHED STUDY \$ 111,390.00

To evaluate, monitor, and enhance fish communities and sport fisheries of lakes, reservoirs and streams of the Ochlockonee River watershed, and recommend strategies for management; to determine the ecological effects and management benefits of a major reservoir draw-down; to determine the impact of hydrilla control on sport fish population in Lake Jackson.

DISTRICT(s): 02

Fishery Ecology Of The Upper Ochlockonee River

To monitor the status of fish communities of the Upper Ochlockonee River and tributaries.

Impact Of Hydrilla Control Of Sport Fish Populations In Lake Jackson

To monitor the impact of hydrilla control on sport fish populations in Lake Jackson.

Evaluation Of Long-term Draw-down Benefits To Largemouth Bass And Black Crappie Populations

To evaluate the long term benefits to largemouth bass and black crappie of an extreme lake draw-down followed by a slot limit harvest regulation in Lake Talquin.

APALACHICOLA RIVER WATERSHED INVESTIGATIONS

\$ 113,642.00

To define species composition, relative abundance and biomass of fishes in the Chipola, Dead Lakes, and Apalachicola River Systems and assess the harvest from the upper Apalachicola River.

DISTRICT(s): 02

Sport Fishing Survey

To estimate sport fish harvest and effort from the upper Apalachicola River.

General Fisheries And Aquatic Habitat Survey

To define species composition, relative abundance and biomass of populations in the Chipola River and Dead Lake. To identify and map major stream habitats. To quantify macroinvertebrates drift. To measure select water quality parameters. To provide baseline information to effectively mitigate effects of dredging and pollution in Apalachicola System. To enhance presently altered habitats and insure high quality fisheries.

ARTIFICIAL FISHING REEF PLANNING, CONSTRUCTION AND GRANT-IN-AID TO LOCAL GOVERNMENT

\$ 234,999.75

To finance administration and transportation of materials costs for construction of artificial fishing reefs.

DISTRICT(s): Statewide

MARINE RECREATIONAL STATISTICAL DATA COLLECTION

\$ 530,000.00

To design and implement a marine recreational fisheries statistical data collection program; to monitor short-term survival and growth of hatchery-reared and released snook and red drum.

DISTRICT(s): Statewide

Short Term Monitoring Of Hatchery Released Fish

To monitor survival of hatchery released fish.

Survey Of Marine Recreational Fishing Sites In Florida

To survey marine recreational fishing sites.

Long Term Monitoring Of Juvenile Finfish In Florida

To monitor juvenile finfish populations.

Development And Testing Of Alternative Gears And Deployment Methods For Monitoring Juvenile Fish

To develop effective sampling gear and methods to monitor marine juvenile fishes.

MARINE ANIMAL HEALTH & CONTAMINATION ASSESSMENT

\$ 100,000.00

To investigate fish kills and recommend corrective action; to determine toxicity levels of red tide organisms to various stages of fish development of three species of fishes.

DISTRICT(s): Statewide

BOAT RAMP DEVELOPMENT

\$ 254,523.00

For construction and maintenance of motorboat access facilities.

DISTRICT(s): Statewide

PROGRAM ADMINISTRATION \$ 36,450.00

For administration of Florida's saltwater projects.

DISTRICT(s): Statewide

FISHERIES GENETICS \$ 39,483.00

To investigate the genetic composition of Florida's native sport fishes, to assess potential impacts of introducing genetically altered fishes, and to assess the appropriateness of existing hatchery broodstocks for culture programs.

DISTRICT(s): Statewide

FLORIDA STATEWIDE AQUATIC EDUCATION \$ 116,565.00

To improve the quality of aquatic resources by changing the knowledge level and behavior of Florida users. To conduct surveys to determine needs. To evaluate the effectiveness on materials created.

DISTRICT(s): Statewide

JACKSONVILLE URBAN POND PROGRAM \$ 39,750.00

To intensively manage eight ponds in the City of Jacksonville to sustain 1,000 hours/acre/year fishing pressure.

DISTRICT(s): 04

COMMISSION-MANAGED IMPOUNDMENTS \$ 95,250.00

For management of six lakes for public fishing.

DISTRICT(s): Statewide

LAKE OKEECHOBEE - KISSIMMEE RIVER \$ 113,910.00

Determine effects of the Kissimmee River restoration project on fisheries habitat and the effects on fisheries habitat of potential water management decisions made about Lake Okeechobee.

DISTRICT(s): 12

Kissimmee River Fisheries Survey

To determine effects of the Kissimmee River Restoration Project on fisheries habitat in the Kissimmee River.

Lake Okeechobee Fishery Resources

Determine effects on fisheries and fisheries habitat on existing or potential water management decisions made about Lake Okeechobee.

FISHERIES STATISTICS \$ 60,847.00

To provide statistical techniques and expertise for analysis and assimilation of fisheries data to improve scientific and management decisions making ability and precision of analytical results.

DISTRICT(s): Statewide

Fisheries Data Analysis

To provide statistical techniques and expertise for analysis and assimilation of fisheries data to improve scientific and management decision-making ability and precision of analytical results.

ORANGE-RODMAN RESEARCH PROJECT \$ 122,973.00

To measure and evaluate fish populations, angler utilization, and habitat data in Rodman Reservoir.

DISTRICT(s): 11

Fisheries Studies Of The Orange Lake Chain Of Lakes

To measure and evaluate fish populations, angler utilization, and habitat data.

FISHERIES EVERGLADES PROJECT \$ 61,110.00

To monitor the Everglades fishery in relation to water level fluctuations.

DISTRICT(s): 12

Everglades Investigations

To monitor the Everglades fishery in relation to water level fluctuations.

INVESTIGATIONS INTO NEARSHORE AND ESTUARINE GAMEFISH \$ 352,807.00

To determine tournament catch data as an index of abundance. To determine the population genetics of tarpon, snook and bonefish. To describe life history and population parameters of snook and assess the impact of fishery enhancement programs on these parameters.

DISTRICT(s): Statewide

Genetic Stock Identification Of Florida Gamefish Species

To determine population genetics of Tarpon, Bonefish and Snook.

Recognize possible stock distinctiveness that could influence how management regulations apply in various parts of the state.

Research On Abundance, Distribution, And Life History Of Tarpon And Bonefish In Florida

To evaluate tournament catch data as an index of abundance.

This information may prove useful in developing population trends from historical tournament catch records.

Research On Abundance, Distribution, And Life History Of Snook In Florida

To describe life history and population parameters of the common snook and to assess the impact of fishery enhancement programs on these parameters.

Will provide population data to assess the abundance of snook and make informed decisions with regard to allowable harvest.

INVESTIGATIONS INTO NEARSHORE AND ESTUARINE GAMEFISH \$ 298,007.00

To determine tournament catch data as an index of abundance. To determine the population genetics of tarpon, snook and bonefish. To describe life history and population parameters of snook and assess the impact of fishery enhancement programs on these parameters.

DISTRICT(s): Statewide

SURFACE WATER IMPROVEMENT & MANAGEMENT ACT COORDINATION (SWIM) \$ 189,678.00

To provide technical guidance and assistance to the Water Management Districts through SWIM to improve fisheries habitat.

DISTRICT(s): Statewide

BOATING ACCESS FACILITY IMPROVEMENT \$ 120,300.00

Renovation of the boating access facility at St. Joseph Peninsula State Park.

DISTRICT(s): 01

INVESTIGATION AND CONTROL OF DISEASE ORGANISMS AFFECTING HATCHERY PRODUCED MARINE RECREATIONAL FINFISH \$ 92,318.00

This project proposes to investigate and characterize the host-parasite interactions, host reactions (physical and behavioral) to infection and possible disease control measures for: 1) *Amyloodinium ocellatum*, an ectoparasitic dinoflagellate protozoan, infections of cultured red drum (*Sciaenops ocellatus*), and 2) *Rhabdosynochus rhabdosynochus*, an ectoparasitic monogenean trematode, infection of cultured snook (*Centropomus undecimalis*).

DISTRICT(s): Statewide

BOATING ACCESS FACILITY AND SHORELINE IMPROVEMENTS IN SEBASTIAN INLET STATE RECREATION AREA \$ 150,000.00

Renovation of the Sebastian Inlet boating access facility.

DISTRICT(s): 11

EVERGLADES URBAN FISHERY PROGRAM \$ 63,601.75

To intensively manage selected waters in southern Florida to provide high catch rates and opportunities for intensive angler harvest; to sustain 1000 hours per acre per year fishing pressure on 100 acres of public waters.

DISTRICT(s): 12,14-18,19

**Specific Development Projects
from 1987 - 1989**

DISTRICT 02

BOATING ACCESS FACILITY IMPROVEMENT \$ 120,300.00

Renovation of the boating access facility at St. Joseph Peninsula State Park.

DISTRICTS 03,04

JACKSONVILLE URBAN POND PROGRAM \$ 39,750.00

To intensively manage eight ponds in the city of Jacksonville to sustain 1,000 hours/acre/year fishing pressure.

DISTRICT 06

PELICAN HARBOR DOCK/BAFFLE DEVELOPMENT \$ 175,000.00

For construction of a 24' wet slip docking facility.

DISTRICT 11

BOATING ACCESS FACILITY AND SHORELINE IMPROVEMENTS IN SEBASTIAN INLET STATE RECREATION AREA \$ 150,000.00

Renovation of the Sebastian Inlet boating access facility.

DISTRICT 12

LAKE OKEECHOBEE - KISSIMMEE RIVER \$ 113,910.00

Determine the effects of the Kissimmee River restoration project on fisheries habitat and the effects on fisheries habitat of potential water management decisions made about Lake Okeechobee.

FLORIDA BOATING ACCESS PROJECTS \$ 518,000.00

DISTRICT 01

Juniper Boat Ramp at Catts Island

About 20 yards of sand were removed from the structure.

Alaqua Creek Boat Ramp at Freeport

All planks were removed. Solid concrete was poured in place to waters edge. Another slab was cast on the upland, pushed into place, and tied into the fixed section. A total 488 square feet of new concrete was installed. Rip-rap was placed on both sides and around the tow of the ramp to help stabilize it.

Juniper Boat Ramp near Juniper Dam

About 20 yards of sand were removed from the structure.

DISTRICT 02

Ocheesee Pond Boat Ramp at Shady Grove

About 50 yards of silt were removed, and the adjacent areas stabilized with rip-rap.

Chipola River Boat Ramp at NW of Altha

The old planks provided a foundation; therefore, a solid concrete slab was poured in place to the waters edge. A second slab was cast on the upland, pushed into place and tied into the fixed slab. Rip-rap was placed on both sides of the ramp to stabilize it. Also, rip-rap was placed under a portion of the "pushed in place" slab, in an attempt to stabilize its foundation.

Suwannee River Boat Ramp at Nobles Ferry

The broken and damaged concrete was removed, the area dried out, and a solid slab of concrete was cast in place. Rip-rap was used to stabilize the side slopes.

Alligator Boat Ramp at Lake City

This site was de-watered and a solid slab of concrete was cast in place. Power loading hole was filled in and re-sloped. Rip-rap was placed on both sides of the ramp to stabilize the area.

Merritts Mill Pond Boat Ramp at Marianna

The ramp crew removed about 50 yards of sand. Jackson County personnel plan to pave the road and parking area, which is the primary source of erosion.

Cypress Creek Boat Ramp at Cypress Creek

Most of the upper end of the old ramp was left in place. The lower section was removed and re-sloped. A concrete slab (16' x 16') was poured in place to the waters edge. Additional slabs were cast on the upland and pushed into place. A launch lane of (90' x 16') is now in existence for boaters. Over 750 bags of rip-rap were placed along the sides of the ramp to stabilize the area.

Aucilla River Boat Ramp at 0.4 Kilometers off S.R. 98

Limerock, 109,728 kg. (108 tons), was used in the parking area for fill. A 3m. x 8m. x 15cm. (10' x 25' x 6") extension was poured at the top of the ramp. A 6m. x 4m. (20' x 14') section of Armorform was pumped in at the toe of the ramp for protection of the bottom from power loading. Armorform was also placed along the sides of the ramp for erosion control.

Dead Lakes (west arm) Boat Ramp at Dead Lakes State Park

The dock was dismantled and removed. The sediment and all planks were removed. A 6m. x 8m. x 15cm. (20' x 25' x 6") concrete slab was cast in place. A 6m. x 6m. x 15cm. (20' x 20' x 6") slab was poured upland, cured and pushed waterward into place. A 3m. x 6m. x 15cm. (10' x 20' x 6") slab was cast in place at the head of the ramp to divert storm water runoff. Armorform, 110m. (1190 ft.) was installed on both sides of the ramp for erosion control. Canal maintenance dredging 1.5m. (5') deep by 4.5m. (15') wide by 60m. (197') in length was performed by Gulf County to enable boats to launch during low water periods.

Apalachicola River Boat Ramp at Chipola Cutoff

The sediment and a portion of the Rip Rap were removed. Water flow was diverted away from the sides of the ramp and Armorform was placed on sides for erosion control.

Suwannee River Boat Ramp at Hart Springs

A concrete spillway was formed to control erosion.

Merritts Mill Pond Boat Ramp at west of S.R. 164

The lake was de-watered at the time so the ramp was cast in the dry. Sand build up and the old planks were removed. A 6m. x 15m. x 15cm. (20' x 50' x 6") concrete slab was cast in place. A diversion ditch was constructed with GeoWeb and back filled with rock. An approach 3m. x 6m. x 15cm. (10' x 20' x 6") was poured at the head of the ramp and the grade was raised 30 cm. (12") to prevent storm water from flowing down the ramp. Armorform was placed on sides to prevent erosion. The property was cleared of brush and weeds. The parking lot was regraded so storm water would flow into the diversion ditch.

Ocheese Pond Boat Ramp at Shady Grove Ramp

Silt was removed from the ramp, rock and filter fabric were placed in the hole. Twelve (12) new planks 3m. x 41cm. x 10cm. (10' x 16" x 4") were placed at the toe of the ramp to extend past the power loading destruction zone.

Koon Lake Boat Ramp at Townsend Pond

Power loading hole was filled and broken planks were replaced. Ten (10) new planks were added to extend the ramp.

Suwannee River Boat Ramp at Rock Bluff Ferry

Eroded areas were filled and Armorform placed along both sides to prevent future problems.

Econfina River Boat Ramp at Econfina River, Hwy. 98

Silt build up was removed, and the brush was cut and removed from the site. Rip Rap (42 bags) was placed in the power loading hole and a 3.6m. x 4.2m. x 15cm. (12' x 14' x 6") slab was added to raise the head of the ramp by 25 cm. (10") to divert storm water runoff from the ramp.

Suwannee River Boat Ramp at west of Chiefland

Gator Dock Corporation made welding repairs under warranty.

Apalachicola River Boat Ramp at Iola Landing

The ramp was cleaned off and the damaged portion removed. A 3m. x 8m. x 15cm. (10' x 27' x 6") slab was cast in place to repair right side of the ramp. Fifty (50) meters (160') of Armorform was placed on each side of the ramp to prevent erosion. The access road and parking area were regraded so water would flow toward the right side of the property into a lowland drainage area.

DISTRICT 03

ST. Mary River Boat Ramp at Walker Landing

All planks were removed and a 6m. x 6m. x 15cm. (20' x 20' x 6") solid slab was poured upland, cured and pushed waterward into place. A 5m. x 6m. x 15cm. (18' x 20' x 6") upland slab was cast in place. Armorform was installed on both sides to control erosion on waterward portion of the ramp. Eighty-four (84) bags of Rip Rap were used to control the erosion problem along sides of upland portion.

DISTRICT 04

Monroe Boat Ramp at Deltona

All of the planks were removed and a poured in place solid concrete slab was installed to the waters edge. Two slabs (10' x 20') were cast on the upland, pushed into place and tied onto the fixed slab. Rip-rap was used on both sides of the ramp to stabilize the structure.

Dias Boat Ramp at Lake Dias

All planks were removed. Two slabs were cast on the hill, one 51' and the other 36', both were pushed into place and attached to the fixed concrete. A 40' aluminum gangway and floating dock, was placed in the middle of the ramp to separate both lanes. Rip-rap was placed in appropriate areas to stabilize the structure.

Lake Brooklyn Boat Ramp at Keystone Heights

Limerock was placed from the end of the ramp to the edge of the water to provide temporary access during this low water period. Twenty (20) concrete planks 3m. x 41cm. (10' x 16" x 4") were installed beginning at the current waters edge and running waterward.

Black Creek Boat Ramp at Middleburg

A 5m. x 6m. x 15cm. (16' x 20' x 6") slab was poured upland, cured and pushed waterward in place. A 5m. x 1m. x 15cm. (16' x 3' x 6") "tie in" section was cast in place to secure the slab.

ST. Johns River Boat Ramp at Ed Stone Park

Sections of the existing ramp were removed and replaced with concrete slabs (including "tie in" sections) totaling 32m. x 20m. x 15cm. (104' x 64' x 6"). Waterward portions of the ramp were formed. Two (2) concrete docks were repaired and two (2) new aluminum floating docks were installed. Armorform was installed along the sides of each lane and under the docks.

Stone Lake Boat Ramp at Keystone Heights

Limerock was placed from the end of the ramp to the ramp to the edge of the water to provide temporary access during this low water period. Twenty (20) concrete planks 3 m. x 41cm. x 10cm. (10' x 16" x 4") were installed beginning at the current waters edge and running waterward.

DISTRICT 05

Apopka Canal Boat Ramp at Tavares

All of the broken planks were removed. A solid slab of concrete (6' x 15') was cast in place. A second section (16' x 14') was cast on the upland, pushed into place, and tied to the fixed portion of the ramp. Rip-rap and sod were used on both sides of the structure to stabilize the site.

Lake Yale Boat Ramp at Marsh Memorial Park

Earthen cofferdams were placed in the access canals to accommodate de-watering. A portion of the old ramp was removed and a slab 10m. x 20m. x 15cm. (32' x 65' x 6") was cast in place. The grade of this ramp was raised 46cm. (18"), and the ramp was enlarged to a double-wide with a divider placed down the center. The new ramp was 3.6m. (12') longer than the previous ramp to cope with the power loading destruction zone. armorform was placed along both sides for erosion control.

DISTRICT 06

Johns Boat Ramp at Johns Lake

The area was diked off, and pumped out. All broken concrete was removed. A solid slab of concrete was cast in place. Tri-lock and sod were used on the sides of the ramp to stabilize the site. Later, because of launching on the side of the ramp, posts were installed to give grass a chance to re-establish and to control vehicle traffic.

Lake Weir Boat Ramp at Hampton Beach

A 46 meter (150') tire breakwater was placed 30 meters (100') waterward of the ramp to dampen wave energy.

Withlacoochee River Boat Ramp construction

Sediment was removed and the power hole was filled to grade. Eighty-four (84) bags of Rip Rap were placed along wash out areas to control erosion.

Lake Miona Boat Ramp at Lake Miona Park

Sediment was cleared from ramp.

Outlet River Boat Ramp at Marsh Bend Park

A concrete slab 5m. x 6m. x 15cm. (16' x 20' x 6") was poured upland, cured and pushed waterward to extend the ramp past a power loading hole.

Lake Ferr Boat Ramp at Moorehead Park

A concrete slab 5m. x 6m. x 15cm. (16' x 20' x 6") was poured, cured and pushed waterward to extend ramp. Armorform was placed along one side of the ramp to control erosion. Grout was used to fill the cavity beneath the undermined slab.

Orange Lake Boat Ramp at Heagy Burry Park

The old ramp was removed and replaced by Marion County through a private contractor. The waterward portion of the ramp was constructed of 12m. x 3m. x 28cm. (39' x 10' x 11") Double Tee Prestress slabs. A total of four (4) slabs were set parallel on cement footers and tied into the upland ramp sod were placed along the ramp sides by GFC personnel.

Watermelon Pond Boat Ramp at off S.R. 28

An earthen Cofferdam was used to de-water the ramp construction area. A concrete ramp was cast in place measuring 5m. x 24m. x 15cm. (16' x 79' x 6"). Armorform and sod were placed along both sides to prevent erosion.

Withlacoochee River Boat Ramp at Dunellon

The sediment was cleared and broken planks removed. Rock was used a fill to correct the ramp grad. Twenty-eight (28) new planks were installed.

DISTRICT 10

Alfred Boat Ramp at Lake Alfred

All planks and sediment were removed. Solid concrete was poured in place to the waters edge. A second slab on concrete was cast on the upland, pushed into place and tied into the fixed portion. A total of 448 square of new concrete was installed. Rip-rap was placed along the sides of the ramp to help stabilize the structure.

Lake parker Boat Ramp at sertoma park

The old ramp was removed and the new ramp was enlarged to better serve the public. A 10m. x 14m. x 15cm. (32' x 45' x 6") slab was poured on the upland, cured and then pushed waterward into place. A 10m. x 8m. x 15cm. (32' x 27' x 6") section was cast in place to form the upland portion of the ramp. Forty meters (130') of Armorform were used on the ramp sides for erosion control. A stationary dock and gangway were placed on the side of the ramp, and a divider was installed down the middle of the ramp denoting lanes.

DISTRICT 11

Kissimmee canal Boat Ramp at East of Lake Wales

Up to 20 old planks were removed. A slab (16' x 14') was cast on the upland, pushed into place and attached to the fixed section of concrete. Rip-rap was replaced along both sides of the ramp to help stabilize the site.

St. John's river Boat Ramp

Repairs were made to this boat ramp located at Hatbill Park.

DISTRICT 12

C-23 canal Boat Ramp at West of Stewart

About 30 yards of sand were removed from the ramp and 4.5 yards of rock worked in Between the planks. Grass and brush were cut and removed from around the site.

ST. Lucie canal Boat Ramp at Phipps Park

About 30 yards of siltation were removed. Rip-rap was placed along both sides of the slab, and vegetation was cleared away from the ramp.

Lake June-In-Winter Boat Ramp at city of Lake Placid

A wooden walkway and hand rail were constructed to the waters edge. A 1.5m. x 15m. (5' x 50') aluminum dock and gangway were installed on the right side of the existing ramp.

Holiday park Boat Ramp at Holiday Park

The old ramp was removed, and four (4) new lanes, 5m. x 21m. x 15cm. (16' x 70' x 6") were formed. The waterward portion of the new ramps were poured upland, cured and pushed into place. Three (3) aluminum gangways and floating docks 1.5m. x 15m. (5' x 50') were installed. A portion of the upland parking area was reworked. All work was performed by private contractor. Funding for this project was provided by the Florida Game and Fresh Water Fish commission and Broward County boating improvement fund.

L-67 and L-29 canal Boat Ramp at Tamiami Trail

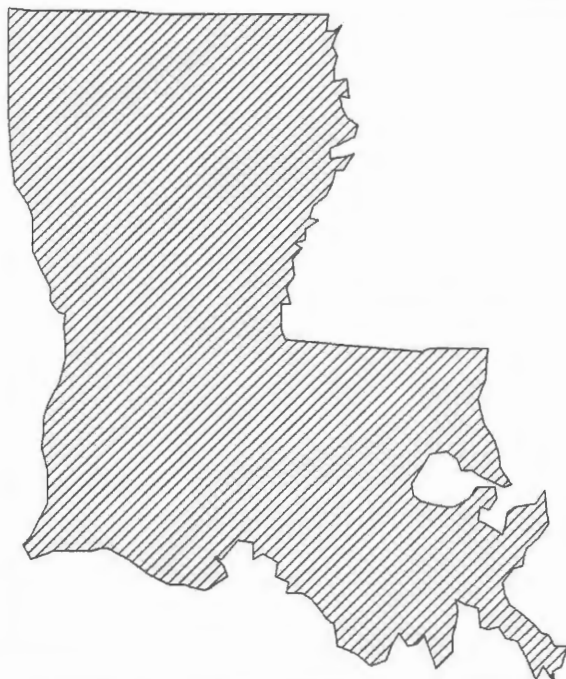
All of the old ramp was removed. A cast in place slab (20' x 14') was poured to the waters edge. A second concrete slab (14' x 14') was cast on the upland, pushed into place, and attached to the fixed slab. Rip-rap was placed along both sides of the ramp to prevent erosion and stabilize the area. The primary use of this ramp is for air boaters.



HIGHLIGHTS OF SPORT FISH RESTORATION IN: LOUISIANA

U. S. Fish and Wildlife Service, Division of Federal Aid

March 1, 1991



Current Projects 1990 - 1991

(Statewide and by Congressional Districts)

TECHNICAL ADVICE TO OWNERS OF PONDS AND SMALL LAKES

\$ 30,000.00

To provide technical guidance to private pond owners for proper management, sport fish production and fishing success and overcome biological limiting factors to increase catch success.

DISTRICT(s): Statewide

FISH MANAGEMENT COORDINATION

\$ 127,500.00

To administer the Department's Federal Aid Sport Fish Program and to improve services to the recreational anglers and boaters.

DISTRICT(s): Statewide

PUBLIC ACCESS AND BOATING FACILITIES

\$ 463,275.00

Construction and renovation of five boating access facilities to improve recreational boating and fishing access to public waters.

DISTRICT(s): Statewide

LOUISIANA'S ARTIFICIAL REEF PLAN

\$ 126,037.00

To develop an artificial reef plan for Louisiana and increase marine sport fishing opportunities.

DISTRICT(s): Saltwater Projects

FISH POPULATION INVESTIGATIONS

\$ 1,337,250.00

To obtain an accurate record of the fish population in eight fisheries districts; to monitor scuba fishermen; to access the paddlefish populations; control aquatic vegetation; evaluate Florida largemouth bass introductions; determine cause of stunted channel catfish in Lake Maurepas and Lac Des Allemands; to determine status of sport fish populations and develop management plans.

DISTRICT(s): Statewide

Aquatic Vegetation Investigations For Sport fish Management

To control aquatic vegetation utilizing water level manipulations.

This information is used to manage lakes for fish production and sport fishing.

Channel Catfish Investigations

To determine if channel catfish populations in Lake Maurepas and Lac Des Allemands are stunted.

Results obtained during this study will be used to formulate management plans which will result in the maximum utilization of this valuable fishery resource in these areas.

ECONOMIC BENEFITS OF LOUISIANA SPORT FISHING

Total Benefits = \$ 893.4 million

Produced by:

Angler

Expenditures = \$ 538.5 million

Public Benefits:

License Revenue = \$ 1.7 million

Wallop - Breaux

Revenue = \$ 3.0 million

Private Benefits:

Earnings = \$ 247.3 million

Full Time Jobs = 15,104

DISTRICT(s): 03

Caney Lake Investigations

To evaluate the stocking and harvest of Florida largemouth bass in a new 5,000 acre impoundment. The need to know the potential of stocking the Florida strain of largemouth bass in Louisiana waters for future management decisions.

DISTRICT(s): 03,08

Largemouth Bass Investigations On Chicot Lake

To determine the effects of a size restriction on largemouth bass in Chicot Lake. To enable the Department to more intensively manage individual lakes.

A Survey Of Factors Affecting Fish Production In The Larto-Saline Area

To document the improvements in water quality and sport fish production in the Larto-Saline area as a result of their construction and restoration activities. This information should provide a measure of the effectiveness of this type of water control structure for water and fisheries renovation and management and also provide information for assessing possible environmental damages caused from man-made alterations of backwater areas by flood control and navigation.

DISTRICT(s): 08

Fish Population Surveys

To obtain a record of fish populations in the eight fisheries districts. To obtain base line data that is used to formulate management plans.

FISH PRODUCTION \$ 187,500.00

To produce sport fish for put-grow-take stocking in public waters. This project will result in stocking of an estimated 1.5 million Striped Bass, 1.1 million Hybrid Striped Bass, 40,000 Flathead Catfish, and 224,000 Florida Bass annually.

DISTRICT(s): Statewide

STOCK IDENTIFICATION OF LOUISIANA'S FRESHWATER FISH \$ 45,000.00

To identify those protein systems most effective for classifying gene stocks and the degree of interbreeding within gene stocks of Florida largemouth bass and coppernose bluegill; to determine the specific production parameters associated with these populations; to combine electrophoretic analysis with stock production characteristics and to develop management protocols.

DISTRICT(s): Statewide

Stock Identification Of Louisiana's Freshwater Fishes

To determine both the genetic indicators and specific production parameters associated with Florida largemouth bass and coppernose bluegill stocks in Louisiana; to develop methods to use these indicators and production parameters in managing these stocks. Be used to assess research techniques to determine their effectiveness toward accomplishment of management goals.

LOUISIANA COOPERATIVE FISH DISEASE PROJECT \$ 15,000.00

Louisiana State University will provide in-State fish disease diagnosis, training, and technical guidance to reduce disease infections and mortality in cultured sport fish to be stocked in public waters.

DISTRICT(s): Statewide

AQUATIC EDUCATION \$ 254,000.00

To conduct an aquatic education project for the State of Louisiana. To develop a public and private school program, to conduct fishing clinics, to train volunteers, to assist handicapped individuals with learning programs

DISTRICT(s): Statewide

RENOVATION OF NEW ORLEANS' CITY PARK \$ 225,000.00

Renovation of New Orleans' city park lakes to improve the quality of water and habitat for fishing.

DISTRICT(s): 01

MAINTENANCE AND EXPANSION OF BEECHWOOD FISH HATCHERY \$ 1,150,182.00

To renovate and expand the freshwater fish hatchery to increase production of cultured sport fish for stocking public waters where reproduction is nonexistent or limited.

DISTRICT(s): 08

Standardized Field, Laboratory, And Statistics Methodology

To standardize field, laboratory and statistical methodologies for quantitative evaluation of fish communities in selected aquatic habitats.

This will be used as a tool for effective fishing management.

APPLICATION AND USE OF FLUORCHROMES IN SUPPLEMENTAL STOCKING PROGRAMS FOR RECREATIONAL FISHERIES ENHANCEMENT \$ 101,366.00

Validate marking performance and retention of four fluorochrome in calcified tissue, otoliths and scales of red drum and striped bass; identify daily incremental patterns; evaluate the use of fluorochrome in tagging fish in supplemental stocking program.

DISTRICT(s): Saltwater Projects

Applications And Use Of Fluorochrome In Supplemental Stocking Programs For Recreational Fisheries Enhancement

Validate marking performance and retention of four fluorochrome (tetracycline, calcein, calcein blue, and alizarin complexone) in calcified tissue, otoliths, and scales of red drum and striped bass; identify daily incremental patterns in otoliths to segregate hatchery from wild fish; evaluate the use of fluorochrome marked fish in supplemental stocking program.

Be used to assess research techniques to determine their effectiveness toward accomplishment of management goals.

**STATEWIDE ENVIRONMENTAL
INVESTIGATIONS** \$ 34,650.00

To collect environmental data on fish and wildlife resources; to provide advice to governmental agencies in planning for fish and wildlife; and make mitigation recommendations on development activities.

DISTRICT(s): Statewide

**STANDARDIZED FIELD, LABORATORY, &
STATISTICAL METHODOLOGIES** \$ 33,105.00

Contract with Louisiana State University to produce standardized statistical methodologies for sampling the freshwater fishery resources of the State.

DISTRICT(s): 08

**Specific Development Projects
from 1987 - 1989**

STATEWIDE

PUBLIC ACCESS AND BOATING FACILITIES \$ 917,577.00

For construction and maintenance of motorboat access facilities.

SPRING BAYOU CHANNELIZATION \$ 187,500.00

Construct a channel in the Spring Bayou complex which will facilitate draw-downs and provide quality fish habitat during draw-down.

DISTRICT 01,02

RENOVATION OF NEW ORLEANS CITY PARK \$ 225,000.00

Renovation of New Orleans city Park lakes to improve the quality of water.

DISTRICT 03

BELLE RIVER RAMP CONSTRUCTION \$ 139,504.00

The purpose of this project was to construct boating access near St. Martin's Parish.

DISTRICT 04

**THE CONSTRUCTION OF A MUNICIPAL BOAT
RAMP** \$ 149,550.00

The purpose of this project is to provide funding for a municipal boat ramp in Caddo Parish.

DISTRICT 05

**RECONSTRUCTION OF ACCESS FACILITIES
ON THE BAYOU** \$ 19,600.00

The purpose of this project is to reconstruct access areas on the Bayou on the Bonne Idée River area in Morhouse Parish.

DISTRICT 08

CONSTRUCTION OF KROTZ SPRING RAMP \$ 85,400.00

The purpose of this project is to aid in the construction of boating access facilities in St. Landry Parish.

RENOVATION OF COTILE LAKE RAMP \$ 51,750.00

The purpose of this project is to aid in the reconstruction of access facilities in Rapides Parish.

RECONSTRUCTION OF COTILE LAKE BUOYS \$ 20,000.00

The purpose of this project is to aid in the reconstruction of Buoys in the Cotile Lake area.

COTILE LAKE VEGETATION SPRAYING \$ 93,750.00

The purpose of this project is to aid in the spraying of unwanted vegetation in the Cotile Lake area in Evangeline Parish.

**RECONSTRUCTION OF SUTTON LAKE BOAT
RAMP** \$ 30,000.00

The purpose of this project is to aid in the reconstruction of the Sutton Lake Boat Ramp in Avoyelles Parish.



HIGHLIGHTS OF SPORT FISH RESTORATION IN: MISSISSIPPI

U. S. Fish and Wildlife Service, Division of Federal Aid

March 1, 1991



Current Projects 1990 - 1991

(Statewide and by Congresssional Districts)

PROGRAM ADMINISTRATION \$ 120,000.00
To administer Mississippi's D-J program.

DISTRICT(s): Statewide

STATEWIDE FISHERIES MANAGEMENT PROJECT \$ 1,987,500.00

To quantitatively measure sport fish populations and harvest in selected lakes and streams, to measure habitat and water quality to determine management potential of selected Mississippi lakes and streams for sport fish production, to maintain and/or improve the fertility of the State lakes through a proper fertilization program, to provide and stock sport fish in State public waters, to utilize fish habitat improvement techniques on DWC's State lakes and public lakes, rivers and streams to improve fish populations and harvest, to provide technical assistance to general public.

DISTRICT(s): Statewide

Sport Fisheries Survey

To quantitatively measure sport fish populations and harvest in selected streams and lakes. To measure habitat and water quality and determine management potential of selected lakes and streams for sport fish production.
To improve the quality of sport fishing.

DISTRIBUTION OF FRESHWATER FISHES \$ 35,241.00

To provide data entry of all museum specimens of Mississippi fishes from various southeastern museum collections, to make photocollection of all native species, to submit final report.

DISTRICT(s): Statewide

Distribution Of Freshwater Fishes in Mississippi

To provide data entry of all museum specimens of native fishes from various southeastern museum collections; to make photo collection of all native species; to submit final report.
Provide information to assist the public, resource managers, and others in interpreting, understanding and utilizing survey results.

AQUATIC EDUCATION \$ 119,850.00

To create and manage a statewide education program targeting sport fish and aquatic ecology subjects associated with a museum facility in Jackson, Mississippi.

DISTRICT(s): Statewide

ECONOMIC BENEFITS OF MISSISSIPPI SPORT FISHING

Total Benefits = \$ 806.7 million

Produced by:

Angler Expenditures = \$ 428.0 million

Public Benefits:

State Sales Tax = \$ 26.8 million

State Income Tax = \$ 10.4 million

License Revenue = \$ 3.1 million

Wallop - Breaux Revenue = \$ 2.6 million

Private Benefits:

Earnings = \$ 245.8 million

Full Time Jobs = 16,160

PUBLIC ACCESS AND BOATING FACILITIES \$ 274,825.00

Develop and maintain public access and boating facilities.

DISTRICT(s): Statewide

STUDIES OF CRAPPIE \$ 18,681.00

To utilize flow cytometry to determine the success of triploidy induction in white crappie; to investigate an alternate technique (mean cell volume using a Coulter Counter analog; the Cell Dyne hematological instrument) for determination of polyploidy in white crappie; to investigate gonadal development and spawning behavior in confirmed triploids.

DISTRICT(s): Statewide

CREEL SURVEY IN MISSISSIPPI SOUND AND ADJACENT WATERS. \$ 73,896.75

To conduct roving creel survey and determine species, size and catch per unit of effort for important recreational fisheries.

DISTRICT(s): 05

Creel Survey Of Mississippi Sound And Adjacent Waters.

To conduct a roving creel survey with non-uniform probability sampling; To determine species, size and catch per unit effort; To publish results and disseminate results to the public.

To provide information on public use and demand for sport fish that will aid in the determination of programs and actions to meet the demand.

AQUATIC ECOSYSTEM TROPHIC-DYNAMIC STUDIES \$ 24,567.00

Feeding habits of gizzard shad in Sardis and Enid Reservoirs.

DISTRICT(s): 01,02

Feeding Habits Of Gizzard Shad In Sardis And Enid Reservoirs

To examine the seasonal changes in gizzard shad diets in Enid Reservoir and to compare to shad diets in Sardis Reservoir. To determine the relationships between seasonal changes in gizzard shad diets and growth rates. To establish the relative contributions of phytoplanktivory and detritivory to gizzard shad growth. To determine the relationships between mudflat vegetation and gizzard shad population structure. To see if gizzard shad prefer detritus from one type of mudflat vegetation over another.

This study will provide fisheries managers with an understanding of the feeding ecology of gizzard shad in warm water southeastern reservoirs and will lead to increased predictive powers relating reservoir physical / chemical parameters to fish population structure.

HYBRID STRIPED BASS EVALUATION \$ 11,250.00

To describe and quantify habitat selections by adult hybrid striped bass from February to December in Ross Barnett Reservoir.

DISTRICT(s): 02,03,04

MISSISSIPPI REEF DEVELOPMENT PROJECT \$ 0.00

To augment and expand material on 2 existing artificial reef sites. This will increase the habitat available for recreationally important reef-associated fish species, helping to provide increased recreational opportunities for the 155,000 sport fishermen using Mississippi waters.

DISTRICT(s): Saltwater Projects

FISHERY RESOURCES ANALYSIS SYSTEM \$ 9,300.00

To develop computer software for data collections using Mississippi's "Guidelines for Standardized Lake and Reservoir Surveys". This will provide for increased use of data collected for fisheries management.

DISTRICT(s): Statewide

TECHNIQUE ASSESSMENT \$ 9,759.00

To develop standardized techniques for sampling and assessing crappie populations.

DISTRICT(s): Statewide

EFFECTS OF DIFFERENT EXPLOITATION RATES ON RIVERINE POPULATIONS OF FLATHEAD CATFISH \$ 39,966.00

To assess annual variability in adult stock structure for length-frequency distributions, proportioned stock density, length-weight relationships, age composition; to determine short and long-term responses to different levels of fishing mortality; to determine effectiveness of hand grabbing boxes to other collecting gear in Tallahatchie and Big Black Rivers.

DISTRICT(s): 02

INVESTIGATIONS OF COBIA, RACHYCENTRON CANADUM, IN MISSISSIPPI GULF WATERS \$ 94,797.00

Through contract with The Gulf Coast Research Laboratory, perform age and growth, reproductive biology, population dynamics and husbandry of cobia.

DISTRICT(s): Saltwater Projects

Investigations Of Cobia, Rachycentron Canadum, In Mississippi Gulf Waters

To perform age and growth, reproductive biology, population dynamics, movement, and artificial propagation, and husbandry.

Provide information on the abundance, condition, or factors which affect sport fish populations, and to develop population and habitat management practices.

PUBLIC FISHING PIERS \$ 45,000.00

Construction of four public fishing piers

DISTRICT(s): Saltwater Projects

RED DRUM STUDIES IN MISSISSIPPI \$ 35,795.00

To study the population age structure and emigration dynamics in coastal Mississippi.

DISTRICT(s): Saltwater Projects

Population Age Structure And Emigration Dynamics Of Subadult Red Drum In Coastal Waters

To tag and monitor movements; to determine age structures.

Provide information on the abundance, condition or factors which affect sport fish populations and to develop population and habitat management practices.

**RIVERINE FISHERIES RESOURCES
ASSESSMENTS IN THE UPPER YAZOO RIVER BASIN** \$ 44,925.00

Cooperative agreement with Mississippi State University to determine assemblage composition and stock structure and compare fisheries resources in lower reaches of Yalobusha River with data from these reaches prior to clearing, dredging, and snagging.

DISTRICT(s): 01,02

**Riverine Fisheries Resources Assessments In The
Upper Yazoo River Basin**

To determine assemblage composition and stock structure; compare with data prior to clearing, dredging and snagging.

Provide information on the abundance, condition, or factors which affect sport fish populations and to develop population and habitat management practices.

**MISSISSIPPI STRIPED BASS REARING
& STOCKING PROGRAM** \$ 37,500.00

To restore the striped bass population to the tributaries of Mississippi Sound by stocking Phase I and tagged Phase II fingerlings derived from brood stock which are environmentally adapted to waters of the region.

DISTRICT(s): Saltwater Projects

**EVALUATION OF THREE MARKING
TECHNIQUES ON JUVENILE WALLEYE** \$ 23,574.00

To determine the long-term retention (4-5 months) of microtags in walleye held under controlled conditions and evaluate the practical applications for field evaluation.

DISTRICT(s): 03

**Evaluating Marking Juvenile Walleye With Coded Wire
Micro-tags**

To determine long-term retention (4-5 months); to determine effects of hand-tagging technique of tags on survival; to determine the longevity of each tag; to evaluate practicality of hand-tagging technique in cost effectiveness, manpower, mortality and duration of tag under current stocking practices.

To assess research technique to determine its effectiveness toward accomplishment of management goals.

**DEVELOPMENT OF A RESOURCE PLANNED
MANAGEMENT SYSTEM** \$ 39,375.00

To develop, by 6/30/91, a wildlife resource planned management system that will provide a strategic plan for dealing with major long range wildlife resource problems in Mississippi, and provide an operational procedure for implementing the strategic plan in annual budgeted increments, and for evaluating progress toward established objectives.

DISTRICT(s): Statewide

**Specific Development Projects
from 1987 - 1989**

DISTRICT 05

**MISSISSIPPI NATURAL NEARSHORE REEF
DEVELOPMENT** \$ 7,796,250.00

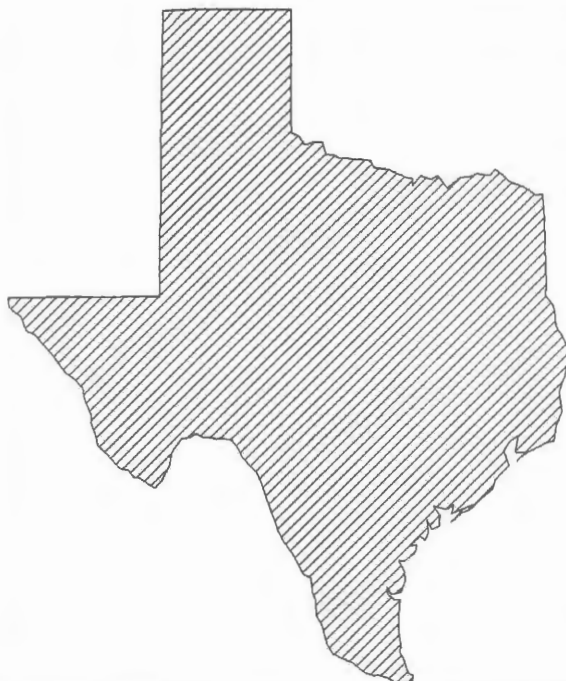
Development of six nearshore reefs for the benefit of sport fishermen unable to get to the offshore reefs.



HIGHLIGHTS OF SPORT FISH RESTORATION IN: TEXAS

U. S. Fish and Wildlife Service, Division of Federal Aid

March 1, 1991



ECONOMIC BENEFITS OF TEXAS SPORT FISHING

Total Benefits = \$ 3.3 billion

Produced by:

Angler

Expenditures = \$ 1.9 billion

Public Benefits:

State Sales Tax = \$ 75.9 million

License Revenue = \$ 11.3 million

**Wallop - Breaux
Revenue = \$ 9.8 million**

Private Benefits:

Earnings = \$ 922.6 million

Full Time Jobs = 53,089

Based on 1985 National Survey of Fishing, Hunting, and Wildlife -
Associated Recreation

Current Projects 1990 - 1991

(Statewide and by Congresssional Districts)

HEART OF THE HILLS FISHERIES RESEARCH STATION

\$ 71,025.00

To conduct maintenance and make developments needed to support inland fisheries research conducted at this facility. Primary objectives include: 1.) extending water supply canal 200 feet; 2.) revamping office building into additional office space; 3.) construct an educational building.

DISTRICT(s): 21

STATEWIDE FISHERIES RESEARCH

\$ 89,475.00

To conduct fisheries research on inland waters. Completion of the research jobs will help maintain or enhance the 40.4 million angler days of fishing generated in the freshwaters of Texas.

DISTRICT(s): 15

Hybrid Grass Carp Evaluation

To determine if grass carp x bighead carp hybrids stocked at a rate of 70 per vegetated hectare will reduce the vegetated area of Raven Reservoir to 20% or less of the total reservoir area within 2 years.

This study will provide information on the effectiveness of using hybrid grass carp to control aquatic vegetation in Texas waters. This will effect catch and harvest rates, increase aquatic resource utilization, and improve fishing from reservoir banks. Successful completion will provide 50 additional acres in Raven Reservoir.

DISTRICT(s): 15,21,23

Genetic Manipulation in Largemouth Bass

To compare growth and reproductive potential of triploid and gynogenetic largemouth bass with normal, diploid largemouth bass.

Benefits of gynogenetic reproduction are rapidly preserving desirable genetic characteristics and avoiding unwanted variability in broodstock. This should increase the number of trophy largemouth bass, catch and harvest; increase the transmission of desirable genetic traits, increase largemouth growth rates.

DISTRICT(s): 21

Florida Largemouth Bass Growout

To determine ultimate maximum size of fast and slow growing Florida largemouth bass. This study will provide information on the growth rates of Florida largemouth bass. This should help managers increase numbers of trophy largemouth bass greater than 3.6Kg, increase maximum

size potential of stocked largemouth bass, and increase production of largemouth bass with genetic potential for large size.

Heritability Of Angling Vulnerability In Large Mouth Bass

To determine if three generations of selective breeding can increase angling vulnerability of Florida largemouth bass.

This study will provide information on the abundance and factors which affect sport fish populations in order to develop population management practices. Direct or indirect results of this research should increase largemouth bass catch rate (fish/hour) by 20%.

DISTRICT(s): 27

Assessment Of Paddlefish Stocking In The Nueces River System

To measure selected life history parameters and movement and migration of paddlefish stocked in the Nueces River system.

Information obtained from this study will help managers learn movement and migration patterns as well as life history parameters of the paddlefish. With this information and additional stocking it is hope to start a sport fishery for the paddlefish. It is currently estimated to create at least 2,000 angler days a year.

MONITORING OF TEXAS COASTAL FINFISH RESOURCES FOR SPORT FISH MANAGEMENT \$ 300,000.00

Monitor trends in harvest, relative abundance, and size of important saltwater fish in Texas marine waters for recommending and evaluating fisheries management procedures. Benefits from this grant will be continuation or enhancement of 14.5 million angler days in Texas marine waters.

DISTRICT(s): Statewide

STATEWIDE FISH CULTURE FACILITY RENOVATION, CONSTRUCTION, MAINTENANCE AND OPERATIONS \$ 10,440,030.00

Construction and renovation, of the states fish culture facilities. Includes the hatcheries at San Marcos, Corpus Cristi, Huntsville, Possum Kingdom, Jasper, and the Dow Hatchery.

Hatcheries will produce in excess of 40 million fingerling and 200 million fry for the marine and freshwater fisheries. This supports in excess of 55 million angler days a year.

DISTRICT(s): Statewide

MARINE FISHERIES RESOURCE CULTURE & ENHANCEMENT \$ 241,500.00

To develop information and procedures for the culture, enhancement, and management of marine sport fishes in Texas waters. Benefits derived from this project will be increased production of hatchery reared fry and fingerlings for marine sport fish enhancement.

DISTRICT(s): 09

An Evaluation Of Spotted Seatrout Subpopulations From Selected Texas Bay Systems With Emphasis On The Galveston Bay Complex

To examine utility of muscle protein phenotype in the identification of population subdivision in spotted seatrout from the Galveston Bay complex, and to determine if growth patterns on scales and other calcified structures of spotted seatrout inhabiting the Texas Gulf coast can be used to identify stocks. This study will provide

information on the potential to identify the different subspecies of Spotted Seatrout using protein phenotypes.

Spawning And Culture Of Tarpon

To induce spawning and develop pond culture techniques for tarpon. Research will include development of live capture and transportation techniques, methods for induced spawning, and the development of cultural techniques.

This study will provide information on the potential of culturing tarpon to help supplement natural spawning and to introduce tarpon into suitable habitat.

DISTRICT(s): 09

Induced Spawning And Pond Culture Of Common Snook

To induce snook spawning and develop pond culture techniques for fingerlings for enhancement of the population by supplemental stockings. Research will include induced maturation and spawning of snook; pond culture of fry; identify commercial feeds that the snook will accept; and cryopreservation of milt.

This study will provide information on the spawning, egg development and culture of common snook. Will provide environmental conditions and other factors which affect common snook populations and habitat management practices.

DISTRICT(s): 14,27

Spotted Seatrout Spawning And Culture

To optimize spotted seatrout egg production and fingerling culture techniques and develop a production manual for routine culture of the species. Research will include cryopreservation of spotted seatrout milt; acceptability of two commercial prepared feeds by spotted seatrout reared in saltwater culture ponds; and preparation of a spotted seatrout production manual.

This study will provide information on the spawning, egg development and culture of spotted seatrout. Will provide environmental conditions and other factors which affect spotted seatrout populations and habitat management practices.

ENVIRONMENTAL ASSISTANCE AND TECHNICAL GUIDANCE FOR PROTECTION OF GAME FISH RESOURCES \$ 1,008,552.00

To review proposed projects by local, state, and federal agencies, or private enterprises to determine the project impacts on sport fish or their habitat. Provide technical advice on environmental concerns; map important estuarine nursery habitat; establishment of in-stream flow requirements; monitor and review water quality data to make recommendations for waste water permits; investigate fish kills and pollution incidents. Protection of the aquatic resources from pollution or contaminants. This project will help protect the aquatic resources which generates in excess of 55 million angler days of fishing each year.

DISTRICT(s): Statewide

NORTH MONTAGUE COUNTY BOONE PARK BOAT RAMP \$ 24,750.00

Construct a one-lane boat ramp, one boat dock, roads and parking, and signs. This is a new boat ramp which will provide a launching facility on the east side of Lake Nocona.

DISTRICT(s): 17

**BRAZORIA COUNTY-SAN BERNARD RIVER OFF
FM RD 521 BOAT RAMP** \$ 48,068.00

Construct a two-lane boat ramp, two docks, parking and signs. This project will increase the boat launching capability at this location by 100 %.

DISTRICT(s): 14

**JEFFERSON COUNTY-SPINDLETOP DITCH
ON RUSSELL ROAD BOAT RAMP** \$ 20,218.00

Construct a single lane boat ramp, parking lot and signs. This project will renovate an existing deteriorated boat ramp into one which is safer and more expeditious to use.

DISTRICT(s): 09

**AZLE EAGLE MOUNTAIN LAKE BOAT RAMP -
SHADY GROVE PARK** \$ 84,240.00

Construct a two-lane boat ramp, parking area, lighting, and signs. This project will provide two additional boat ramps into Eagle Mountain Lake for the fishing public.

DISTRICT(s): 12

**PERRY R. BASS MARINE FISHERIES
RESEARCH STATION** \$ 142,500.00

To develop and maintain the Perry R. Bass Marine Research Facility so that the station can provide an area to do research on several marine species of fish.

DISTRICT(s): 14

COLORADO RIVER BOAT RAMP \$ 25,725.00

Replace an existing boat ramp, and construct a bulkhead, parking lot, lighting and signs. This project will renovate an existing deteriorated ramp and provide safer and more expeditious boat launching for boaters in Colorado County.

DISTRICT(s): 14

FARMERSVILLE - SOUTH LAKE BOAT RAMP \$ 81,675.00

The City of Farmersville will construct a new single-lane boat ramp, access road, parking lot, area lighting and signs at South Lake. This project will provide the first boat launching facility into South Lake.

DISTRICT(s): 04

LAKE JACKSONVILLE BOAT RAMP \$ 46,612.00

Renovate an existing single lane boat ramp and expand it to two lanes, will provide expansion of the channel, parking area, erosion control and signs. This project will allow replacement of a single deteriorated lane ramp with a double lane boat ramp for safer and more expeditious use by the boaters of Cherokee County.

DISTRICT(s): 01

**ANDERSON COUNTY TRINITY RIVER BOAT
RAMP** \$ 25,484.00

Project will include a new single-lane boat ramp, access roads, parking and signs. This project will provide a new access point for boaters to enter the Trinity River in Anderson County.

DISTRICT(s): 02

**BAY-CITY - COLORADO RIVER IN RIVERSIDE
PARK BOAT RAMP** \$ 90,000.00

This project will provide a 2-lane boat ramp, 2 docks, roads, parking, landscaping and signs. This project will add two new boat lanes to the Colorado River.

DISTRICT(s): 14

PALACIOUS SOUTH BAY BOAT RAMP \$ 200,000.00

This project will consist of a 2-lane boat ramp, boat docks, roads and parking, lighting and signs.

DISTRICT(s): 14

**FRANKLIN CO./LAKE CYPRESS SPRINGS/
"JACK" GUTHERIE PARK RAMP** \$ 37,500.00

This project will provide a ramp, 2 docks, parking area, lighting, fencing and signs on Lake Cypress Springs. This project will provide a needed boat ramp where there were previously none.

DISTRICT(s): 01

**TYLER CO./NECHES RIVER AT US 69 BOAT
RAMP** \$ 73,500.00

This project will provide for a single lane boat ramp, parking area, lighting and signs. This project will provide a new boat ramp into the Neches River to serve boaters in the northern part of Tyler County.

DISTRICT(s): 01

**CHAMBERS CO./TRINITY BAY BOAT RAMP
IN FORT ANAHUAC PARK** \$ 112,500.00

This project will include: renovation of 2 single-lane boat ramps; building a new single lane boat ramp; construction of 5 docks; parking area; lighting; erosion control and signs. This project will remove the safety hazards associated with the deteriorated ramps and provide safe entry into Trinity Bay near the city of Anahuac.

DISTRICT(s): 09

IOWA PARK/LAKE BUFFALO BOAT RAMP \$ 32,335.00

This project will renovate a 2-lane boat ramp, access road, parking, build 2 docks and signs. This project will extend an existing ramp to make it useable because high water levels have inundated the present ramp.

DISTRICT(s): 13

**SAN ANGELO TWIN BUTTES RESERVOIR
BOAT RAMP** \$ 53,812.00

This project will provide a new 2-lane boat ramp, access roads and parking, area lighting, and signs for the boaters in and near the city of San Angelo.

DISTRICT(s): 21

**PALO DURO RIVER AUTHORITY, PALO DURO
LAKE EAST BOAT RAMP OFF FM760** \$ 200,062.00

The Palo Duro River Authority will construct a new boat ramp facility to include a 2-lane boat ramp, 1 floating dock, a road, parking, erosion control and signs. This new facility will provide closer access to boaters of Hansford County.

DISTRICT(s): 13

PANOLA COUNTY, SABINE RIVER AT US 59 BOAT RAMP. \$ 94,875.00

This project will include a new 1-lane boat ramp, a road, parking and signs for the boaters of Panola and Harrison Counties.

DISTRICT(s): 01

**Specific Development Projects
from 1987 - 1989**

DISTRICT 02,15,20

**STATEWIDE FISH CULTURE FACILITY RENOVATIONS,
CONSTRUCTION, MAINTENANCE AND
OPERATIONS** \$ 4,068,025.00

Construction, renovation, maintenance and operations of the State's fish culture facilities. Includes the hatcheries at San Marcos, Corpus Christi, and Huntsville.

DISTRICT 04

FARMERSVILLE - SOUTH LAKE BOAT RAMP \$ 81,675.00

The city of Farmersville will construct a new single-lane boat ramp, access road, parking lot, area lighting and signs at South Lake.

WOOD COUNTY, LAKE HAWKINGS BOAT RAMP \$ 53,048.00

To construct a boat ramp.

DISTRICT 09

JEFFERSON COUNTY, SPINDLETOP DITCH BOAT RAMP \$ 20,218.00

To construct a boat ramp.

DISTRICT 13

IOWA PARK LAKE BOAT RAMP \$ 11,250.00

To construct a boat ramp.

DISTRICT 14

**CEDAR AYOU BOAT ACCESS AND FISH PASS
REDREDGING** \$ 458,750.00

To open a natural pass connecting Mesquite to the Gulf of Mexico.

**BRAZORIA COUNTY, SAN LUIS/COLD PASS
BOAT RAMP** \$ 74,550.00

To construct a boat ramp.

**BAY CITY-COLORADO RIVER IN RIVERSIDE
PARK BOAT RAMP** \$ 90,000.00

This project will provide a 2-lane boat ramp, boat docks, roads and parking, lighting and signs.

PALACIOUS SOUTH BAY BOAT RAMP \$ 200,000.00

This project will consist of a 2-lane boat ramp, boat docks, roads and parking, lighting and signs.

DISTRICT 17

**WOOD COUNTY, LAKE HAWKINGS
BOAT RAMP** \$ 24,750.00

To construct a boat ramp at Boone Park.

DISTRICT 17,12

**AZLE EAGLE MOUNTAIN LAKE BOAT RAMP -
SHADY GROVE PARK** \$ 84,240.00

Construct a two-lane boat ramp, parking area, lighting and signs.

DISTRICT 27

**MARINE FISHERIES RESOURCE CULTURE &
ENHANCEMENT** \$ 76,552.00

To develop culture methods for marine sport fish.

**PORT ARANSAS ROBERTS POINT
BOAT RAMP** \$ 213,225.00

To construct a boat ramp.

**KKEGERG CAYO DEL GRULLO COUNTY
BOAT RAMP** \$ 83,250.00

To construct a boat ramp at Hubert Park.

**PERRY R. BASS MARINE FISHERIES
RESEARCH STATION** \$ 207,000.00

To develop and maintain the Perry R. Bass Marine Research Facility so that the station can provide an area to do research on several marine species of fish.