ANADROMOUS FISH RESOURCES

SUPPLEMENT

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ANADROMOUS FISH RESOURCES

their

CONSERVATION
DEVELOPMENT
ENHANCEMENT

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INTRODUCTION

This supplement covers the first 4 years of project activities under the Anadromous Fish Conservation Act of 1965, Public Law 89-304.

It is intended to provide program coordinators and administrators, legislators, project personnel, and others interested in our anadromous fish resources with details of individual projects and other peritnent information.

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ANADROMOUS FISH PROJECTS

All of the 31 eligible States, except Hawaii and Texas, are participating in the Anadromous Fish Conservation Program. They are carrying out projects on a matching basis for the enhancement, conservation, and development of the Nation's anadromous fish resources.

Since the start of this program 213 projects have been approved of which 139 have been completed. The total cost of work funded through fiscal year 1970 is about $30,000,000, of which the Federal share is about 50 percent.

Projects approved and funded in fiscal years 1967 through 1970 are listed by State, project number, title, duration, estimated total cost with gross obligation of Federal funds parenthesized. Projects administered and funded by the Bureau of Sport Fisheries and Wildlife are identified by AFS, and those funded by the Bureau of Commercial Fisheries by AFC. Projects funded by both Bureaus are identified by AFCS when the Bureau of Commercial Fisheries is the administering agency and by AFSC when the Bureau of Sport Fisheries and Wildlife is the administering agency.

ALABAMA

AFC-1. Research on striped bass. 1967-1970. $70,000 ($35,000). Marked fish were released in Mobile Bay and tributaries to study survival, growth and migration.

AFS-2. Anadromous fish of Alabama--Their distribution and management. 1967-1970. $40,000 ($20,000). A survey was conducted of anadromous fish distribution and ways of increasing it.

AFC-3. Striped bass production to establish commercial stocks. 1970-1972. $80,000 ($8,500). To release 6- to 9-inch fry and fingerlings into Mobile Bay and tributaries to establish runs of fish.

AFC-4. Factors limiting survival and growth of young striped bass. 1970-1973. $54,000 ($9,000). To determine factors which limit survival and growth of young fish under cultural conditions.

ALASKA

AFS-1. Fire Lake fish culture station improvement. 1966-1971. $646,000 ($323,000). To increase and improve hatching and rearing capacity and to provide additional personnel facilities.

AFC-2. Sockeye salmon migration behavior and statistics collection. 1967-1970. $202,000 ($101,000). Racial and age data were obtained and escapement counts made at weirs in southeastern bays and lakes.

AFC-3. Restoration of earthquake-damaged salmon streams, Prince William Sound. 1967-1970. $342,400 ($171,200). Restorative work completed on 29 of the 181 damaged pink and chum salmon streams.

AFC-4. Offshore salmon abundance index. 1967-1970. $496,000 ($248,000). Short-term forecasts are made of the size and timing of salmon runs as they near the inshore fisheries.

AFC-6. Bristol Bay intermediate high seas inshore test fishing. 1967-1970. $220,800 ($110,400). Size, time and age composition of sockeye salmon runs determined before they enter inshore fisheries.

AFC-7. Arctic-Yukon-Kuskokwim anadromous fish investigations. 1967-1970. $322,800 ($161,400). Population sizes and escapements and movements of king and chum salmon and sheefish are determined.

AFC-8. Kodiak Island sockeye salmon investigations. 1967-1970. $423,600 ($211,800). Stocks were identified, escapement and smolt counts made, and data on life history obtained on salmon.

AFC-9. Identification of red salmon stocks, Chignik area. 1967-1968. $40,000 ($20,000). Data were obtained on origin and age composition of stocks harvested by purse seine fishery.

AFC-10. Copper River sockeye salmon investigations. 1967-1970. $295,800 ($147,900). Fish were tagged and released and aerial and ground surveys made to assess escapements.

AFC-11. Coordination. 1967-1970. $241,800 ($120,900). Provided supervision and administration of P.L. 89-304 projects.

AFC-12. Forecasts of Kodiak Island

[illegible] salmon runs. 1967-1969. $44,400 ([illegible],000). [illegible] of [illegible] forecast from abundance of juveniles in estuaries, use of fluorescent marking pigment was tested.

AFC-14. Optimum escapement of Chignik sockeye salmon. 19[illegible]-196[illegible]. $[illegible] ([illegible]). Studied ecological association of young salmon and competitors treated in biologically dissimilar lakes.

AFC-15. Pink salmon forecast research. 1967-1970. $10[illegible],400 ($[illegible],700). In the Chignik area, 1[illegible] streams were sampled to obtain index on fry production for forecast purposes.

AFC-17. Computer simulation model of salmon stocks. 1966-1969. $[illegible],000 ($1[illegible],000). Investigated computer simulation techniques for designing tag and recovery programs and tending migration.

AFC-18. Escapement enumeration investigations. 1967-1970. $1[illegible],400 ($[illegible],[illegible]00). Compared efficiency and accuracy of sonar counter salmon escapements to visual tower and aerial counts.

AFC-19. Optimum escapement of sockeye salmon. 1966-1969. $1[illegible],[illegible]00 ($16,[illegible]00). Different numbers of spawners to nursery streams were studied in Chignik River system.

AFC-20. Juvenile sockeye salmon study in Iliamna Lake and Lake Clark. 1968-1970. $[illegible],000 ($[illegible],000). Tow net catches were used to obtain an index of salmon abundance.

AFC-21. [illegible] River smolt study. 19[illegible]-19[illegible]. $[illegible] ($21,[illegible]00). The age composition and numbers of out-migrant smolts were estimated.

AFC-2[illegible]. Optimum escapement of Chignik sockeye salmon. 1966-1970. $[illegible],[illegible]00 ($[illegible]). The effects of changes in escapement levels on salmon abundance were studied.

AFC-2[illegible]. Bear Lake Rehabilitation. 19[illegible]-1971. $[illegible] ($[illegible]). To rehabilitate Bear Lake to realize the potential salmon production capabilities.

CALIFORNIA

AFSC-1. Mad River hatchery construction. 1966-1971. $[illegible] ($[illegible]). To provide a fish hatchery for coho, chinook salmon and steelhead trout to serve north coast area needs.

AFC-2. Woodbridge fish screen construction. 1966-1971. $[illegible]00,000 ($[illegible],000). The loss of downstream migrant salmon on the Mokelumne River at the town of Woodbridge was prevented.

AFC-3. Mad River hatchery fish ladder construction. 1970-1971. $[illegible] ($[illegible],000). To construct a fish ladder to provide entry of adult salmon and steelhead trout into egg-taking station.

AFC-5. Scott Valley fish screen construction. 1967. $[illegible],000 ($[illegible],000). Installed screens and trapping facilities at diversion canal to prevent loss of downstream migrant salmon and steelhead.

AFC-7. Anadromous fish water requirements. 1967-1968. $1[illegible],000 ($[illegible],[illegible]00). Water requirements for seaward migrant juvenile salmon in [illegible] and [illegible] Rivers were investigated.

AFC-8. Delta migration study. 1967-1968. $[illegible] ($[illegible]). Behavior of adult king salmon as influenced by stream flow were observed in the lower San Joaquin River delta.

AFC-9. Banta-Carbona fish screen construction. 1969-1972. $[illegible],000 ($11[illegible],[illegible]00). To construct fish screen to prevent loss of downstream migrant salmonids in diversion from San Joaquin River.

AFSC-10. Glenn-Colusa fish screen construction. 1966-1971. $[illegible] ($[illegible]). To prevent salmonids from being lost from the Sacramento River near Hamilton City.

AFC-1[illegible]. [illegible] fish screen construction. 1970-1971. $[illegible],000 ($[illegible],000). To construct fish screen to prevent losses of downstream migrant salmonids in diversion from San Joaquin River.

CONNECTICUT

AFC-1. Rate and pattern of shad migration. 1967-1969. $[illegible],000 ($[illegible],000). Shad were marked with acoustic tags and tracked with sonic equipment to observe migration in the Connecticut River.

AFC-2. Fishway-Leesville Dam-Salmon River. 1967-1971. $[illegible] ($[illegible]). To remove the dam and install a system of weirs and two-way traps to give salmonids and shad access to Salmon River.

CONNECTICUT (con't)

AFC-3. Life history and potential fishery of river herrings. 1967-1972. $83,000 ($21,500). Fish captured in Connecticut River are marked with polystyrene dye, and their migratory behavior studied.

AFS-4. Connecticut River Basin ... research and management. 1967-1972. $111,700 ($22,100). To determine research and management needs in the Basin and design a program to meet them.

AFS-5. Quinebaug River-Thames River ... study. 1967-1972. $131,000 ($28,000). To do a limnological and fisheries study, and determine the success of introducing shad and coho salmon.

AFC-6. Migratory behavior of American shad. 1970-1973. $72,000 ($12,000). To study mechanisms of orientation and predetermine behavior patterns of shad in Long Island Sound and Connecticut River.

DELAWARE

AFCS-1. Feasibility of restoration of shad in Brandywine Creek. 1967-1969. $20,000 ($10,000). Fertilized shad eggs were hatched to determine suitability of the stream for shad restoration.

AFS-2. Delaware River Basin studies. 1968-1973. $132,500 ($25,466). To develop the sport and commercial fisheries of the Basin with emphasis on American shad and striped bass.

AFSC-3. Shad passageway construction on the Brandywine River. 1968-1971. $480,000 ($175,000). To construct passageways over 11 dams on the River to permit the passage of American shad.

AFS-4. Cooperative study of striped bass. 1968-1970. $2,500 ($1,250). A review and analysis of Atlantic Coast striped bass migrations was undertaken, using data from previous tagging studies.

FLORIDA

AFC-2. American shad in the St. Johns River. 1967-1971. $95,000 ($47,500). To obtain abundance, seasonal migration, spawning behavior and other data, and assess effects of pollution on survival.

AFS-3. Biology of the Alabama shad in Northwest Florida. 1967-1971. $60,000 ($30,000). To characterize and seek spawning grounds and to evaluate the potential of the fishery.

AFS-4. The potential of anadromous fishes. 1971-1974. $150,000 ($0). To determine species and abundance in Northwest Florida, sample life history and distribution, and evaluate fisheries.

GEORGIA

AFC-1. Shad fishery in the Altamaha River. 1967-1968. $30,000 ($15,000). Population size of shad entering the River and fishing rates were determined.

AFS-2. Life history studies--striped bass. 1967-1971. $100,000 ($46,887). To determine production and distribution of striped bass populations in Georgia streams.

AFS-3. Studies of striped bass in three divergent habitats. 1967-1970. $15,000 ($7,500). Reviewed historical occurrence, determined food habits, and determined abundance of food items.

AFS-5. Brunswick office and storage facilities. 1968. $30,000 ($15,000). Provided office, lab and library space and equipment storage facilities for anadromous fish personnel and equipment.

AFC-6. Nursery areas and biology of juvenile anadromous fish, Altamaha River. 1968-1970. $61,000 ($30,500). Determined distribution and abundance of juvenile shad and river herrings; mapped nurseries.

AFS-9. Evaluation of stocking fingerling striped bass. 1970-1974. $116,000 ($0). To determine if fingerling striped bass can be added to increase current stocks, and to assess their effect.

ILLINOIS

AFS-1. Lake Michigan creel census project. 1969-1970. $10,000 ($5,000). Fishing pressure for smelt and salmon was determined in Lake Michigan by aerial survey.

AFC-2. Histology of the thyroid and pituitary glands in alewife. 1970-1971. $24,000 ($12,000). To determine differences in glandular activity between freshwater and marine alewife populations.

INDIANA

AFS-1. Establishment of a salmon fishery in Indiana streams. 1969-1970. [illegible] ([illegible]). To establish spawning runs in Trail Creek to create a fall sport fishery for salmon.

LOUISIANA

AFSC-1. Ecological factors ... Lake Pontchartrain ... 1967-1970. $[illegible] ([illegible]). Determined water quality, presence and abundance of fish, and feasibility of re-establishing striped bass.

AFS-4. Comparison of northern and southern races of striped bass. 1971-1974. [illegible] ([illegible]). To obtain fry from the Chesapeake Bay and stock them in Louisiana, and compare their survival.

MAINE

AFS-1. Construction of fish passage facilities-Penobscot River. 1966-1970. $[illegible] ($[illegible]). Fish passage facilities were constructed for anadromous fish restoration on the Penobscot River.

AFC-2. Development of commercial anadromous fish resources. 1967-1969. [illegible] ([illegible]). Investigated condition and potential for improvement of alewife and blueback herring resources.

AFS-3. Construction of fish passage facilities-Penobscot River. 1967-1970. [illegible] ($[illegible]). Fish passage facilities were constructed for anadromous fish restoration on the Penobscot River.

AFS-4. Research ... striped bass and Atlantic smelt. 1967-1972. $100,000 ([illegible]). To determine the status of smelt and striped bass, and whether striped bass reproduce in Maine.

AFS-[illegible]. [illegible] River water control project. [illegible]. [illegible] ([illegible]). To construct impoundments to store surplus runoff water and to release the water gradually into the stream.

AFC-[illegible]. Stream improvement and fishway construction. [illegible]. [illegible] ([illegible]). To construct fish passage facilities and/or remove [illegible] for upstream movement of alewife in streams.

AFSC-[illegible]. Phase II, marine research laboratory construction. [illegible]

[illegible] ([illegible]). To construct two wings on new marine research lab, including installation of facilities.

AFS-10. Construction of fish passage facilities-Penobscot River. 1968-1971. $[illegible] ($[illegible]). To construct fish passage facilities for anadromous fish restoration.

AFSC-11. Statewide comprehensive ... management plan. 1968-1969. [illegible] ([illegible]). A plan was developed for maintaining all fish, wildlife and marine species within State boundaries.

AFS-12. Evaluation of Penobscot River ... migrations. 1969-1974. $[illegible] ($[illegible]). To evaluate the efficiency and effectiveness of the Penobscot Model River restoration program.

AFSC-13. Statewide comprehensive ... management plan. 1969-1971. $[illegible] ([illegible]). To develop a plan for maintaining all fish, wildlife and marine species within the State boundaries.

AFC-14. Development and management of alewife, blueback herring and shad resources. 1970-1974. $[illegible] ($[illegible]). To investigate feasibility of using mechanical procedures for stocking these species.

AFS-15. Atlantic salmon rearing--Penobscot River. 1970-1971. $100,000 ($[illegible]). To rear [illegible] 2-year Atlantic salmon smolts, tagging [illegible]% of them, to re-establish a salmon run in the Penobscot.

MARYLAND

AFSC-1. Biological study of Susquehanna River. 1967-1970. $[illegible] ($[illegible]). Surveyed abundance of shad, herring and striped bass, and their fisheries, and prevented fish kills.

AFC-[illegible]. Stream improvement program. 1967-1970. $[illegible] ($[illegible]). Streams were surveyed, problem areas to fish passage are being corrected by construction of facilities or removal of obstructions.

AFC-[illegible]. Suspended sediment in Chesapeake Bay. [illegible]. $[illegible] ($[illegible]). Suspended materials were collected at different water depths at [illegible] stations in Chesapeake Bay to determine their origins.

AFS-[illegible]. Cooperative study of striped bass ... 1968-1970. $[illegible] ($[illegible]). [illegible] review and analysis of Atlantic Coast

MARYLAND (con't)

striped bass migrations was undertaken, using data from previous tagging studies.

MASSACHUSETTS

AFC-1. Anadromous fish investigations. 1967-1970. $80,000 ($31,700). To construct and/or improve fish passage facilities for alewife on coastal streams in Bristol and Barnstable Counties.

AFS-2. Connecticut River shad study. 1967-1970. $60,000 ($18,000). Determined extent of shad movement, potential of the River for shad, and changes necessary at existing and proposed fishways.

AFS-3. Anadromous fish investigations. 1967-1970. $16,000 ($8,000). All coastal streams were surveyed to determine priorities for future anadromous fish propagation and restoration work.

AFS-4. Connecticut River Basin ... studies. 1967-1972. $164,000 ($37,180). To determine research and management needs in the Connecticut River Basin and to design a program to meet them.

AFS-6. Southeastern Massachusetts shad study. 1968-1973. $40,000 ($4,000). To study the annual run of shad in Palmer and North Rivers, and to determine the feasibility of further stocking them.

AFS-7. Merrimack River ... restoration study. 1968-1973. $58,000 ($6,500). To determine the feasibility of restoring fish runs, and to implement the established fish restoration program.

AFS-8. Cooperative study of striped bass ... 1968-1970. $2,500 ($1,250). A review and analysis of Atlantic Coast striped bass migrations was undertaken, using data from previous tagging studies.

MICHIGAN

AFC-1. Appraisal of anadromous fish stocks. 1966-1967. $35,350 ($10,000). Scientific equipment was installed on the State's research vessel Steelhead for work on Lake Michigan.

AFS-2. Construction of facilities for Great Lakes Anadromous Fish Program. 1966-1968. $632,000 ($300,000). Fish cultural facilities were constructed at two sites.

AFS-3. Construction of facilities for Great Lakes Anadromous Fish Program. 1967-1972. $4,742,000 ($1,795,000). To construct fish cultural facilities at two sites.

AFC-7. Parasites, diseases, and disease control on anadromous fish. 1967-1971. $180,294 ($90,000). To study red worm of yellow perch and bacteria associated with alewife seasonal mortality.

AFSC-8. Great Lakes fish resource development study. 1968-1971. $111,000 ($60,000). To design a study to evaluate the present anadromous fish management program on the Great Lakes.

MINNESOTA

AFS-1. Anadromous fish habitat development. 1967-1971. $200,000 ($99,314). To increase the area available for spawning and angling fish by constructing fish passage facilities.

AFC-2. Fish habitat development. 1967. $16,000 ($8,000). Spawning areas and fish passage needs were surveyed in streams along the North Shore of Lake Superior.

MISSISSIPPI

AFCS-1. Study of striped bass. 1967-1970. $210,000 ($97,500). Hatchery-produced fingerlings were stocked in several rivers to determine whether the waters were suitable for reestablishment of runs.

AFCS-2. Anadromous fish laboratory construction. 1969-1970. $50,000 ($25,000). To construct research laboratory and install equipment to replace that destroyed by "Hurricane Camille."

NEW HAMPSHIRE

AFC-1. Commercial fisheries development. 1968-1972. $230,000 ($39,500). To increase the size of alewife and shad runs by construction of fish passage facilities in Hampton and Piscatagua rivers.

AFS-2. Anadromous fish research, Connecticut River System. 1968-1972. $160,000 ($15,320). To restore anadromous fish runs to the New Hampshire portion of the Connecticut River System.

New Hampshire (cont'd)

AFS-3. Cooperative striped bass study. 1968-1970. $5,000 ($2,500). A review and analysis of Atlantic Coast striped bass migrations was undertaken, using data from previous tagging studies.

AFS-4. Connecticut River Basin ... studies. 1967-1971. $19,[illegible] ($12,[illegible]). To determine research and management needs in the Connecticut River Basin, and to develop a program to meet those needs.

AFS-5. Coho salmon introductions. 1968-1971. $220,500 ($11,700). To establish a coho salmon fishery in New Hampshire's Great Bay, Little Bay, and Piscataqua River area.

AFS-6. Anadromous fish restoration ... Merrimack River. 1970-1971. $[illegible],000 ($[illegible],000). To restore anadromous fish runs to the New Hampshire portion of the Merrimack River System.

NEW JERSEY

AFCS-1. Population and migration of anadromous fish. 1967-1968. $[illegible],000 ($[illegible],700). Estimates were made of the size of shad stocks and the rate of exploitation in the Delaware River estuary.

AFS-2. Delaware River basin ... studies. 1968-1971. $[illegible],000 ($[illegible]). To develop the sport and commercial fisheries of the basin with special emphasis on American shad and striped bass.

AFS-3. Cooperative striped bass study. 1968-1970. $2,000 ($1,000). A review and analysis of Atlantic Coast striped bass migrations was undertaken, using data from previous tagging studies.

NEW YORK

AFS-1. Anadromous trout and salmon population augmentation. 1967-1970. $[illegible],000 ($[illegible],000). To increase fish populations for sport and commercial fishing in the Great Lakes.

AFS-2. Delaware River basin ... studies. 1968-1971. $[illegible],000 ($[illegible],000). To develop the sport and commercial fisheries of the basin with special emphasis on American shad and striped bass.

AFS-3. Cooperative striped bass study. 1968-1970. $2,000 ($1,000). A review and analysis of Atlantic Coast striped bass migrations was undertaken, using data from previous tagging studies.

AFS-4. Evaluation of the sturgeon fisheries. 1967-1970. $30,000 ($15,000). Investigated the location, utilization, and potential of the sturgeon fisheries of the St. Lawrence River and eastern L. Ontario.

AFS-5. ... fish enhancement ... Great Lakes of New York. 1968-1974. $[illegible],000 ($[illegible],000). To prepare a plan for the enhancement of anadromous fish species in Lakes Erie and Ontario; find fishery sites.

NORTH CAROLINA

AFC-1. Research on striped bass in Roanoke River and Albemarle Sound. 1967-1970. $[illegible],000 ($30,000). About 600 fish were tagged and released during spawning season to estimate population size.

AFS-1. Reconnaissance of ... fish runs ... North Carolina. 1967-1968. $[illegible],000 ($30,000). Determined the specific water invaded by anadromous fishes, their degree of exploitation, and time of spawning.

AFC-2. Factors affecting survival of immature striped bass. 1968-1971. $[illegible],000 ($21,[illegible]). To investigate the effects of certain chemicals and environmental factors on zooplankton, food of immature fish.

AFC-3. Offshore anadromous fish exploratory fishing program. 1968-1971. $[illegible],000 ($[illegible],000). To determine relative abundance and distribution of shad and striped bass along the Outer Banks.

AFC-4. Cooperative study of striped bass ... 1970-1971. $[illegible],000 ($[illegible],000). A review and analysis of Atlantic Coast striped bass migrations was undertaken, using data from previous tagging studies.

OHIO

AFCS-1. Physical characteristics of reefs in western Lake Erie. 1967-1970. $[illegible],000 ($[illegible],000). To determine characteristics of reefs as related to spawning and nursery areas of walleye & white bass.

AFS-2. Identification of races ... of walleye pike. 1968-1970. $[illegible],000 ($[illegible],000). Determined electrophoretically if differences exist in the proteins between races or strains of walleye pike.

OREGON

AFS-1. Propagation of winter steelhead-Alsea hatchery. 1966-1969. $67,000 ($24,000). An additional 170,000 winter steelhead smolts were reared at an established hatchery.

AFS-2. Cedar Creek hatchery expansion and fish propagation. 1966-1968. $63,800 ($31,900). Two hatchery ponds were constructed to increase production of either spring chinook salmon or steelhead.

AFS-3. Butte Falls hatchery expansion and fish propagation. 1966-1969. $75,000 ($37,500). Two fish ponds were constructed to facilitate the rearing of additional summer steelhead trout.

AFC-10. Shad and striped bass management. 1968-1970. $33,000 ($16,500). Data such as catch and effort are obtained on the fisheries and spawning history of the species are investigated in rivers.

AFC-11. Construction of rearing ponds-North Nehalem River salmon hatchery. 1967-1970. $172,000 ($86,000). 6 additional rearing ponds for coho and fall chinook were constructed in Clatsop County.

AFC-12. Coordination. 1967-1970. $26,000 ($9,500). Provided for supervision and coordination of Public Law 89-304 projects.

AFS-15. Engineering ... Lint Slough impoundment. 1967. $6,000 ($3,000). Engineering preparatory to flood control improvement for Lint Slough salmon rearing impoundment was provided.

AFS-16. Effects of logging ... on salmon and steelhead. 1967-1970. $102,200 ($51,100). The immediate effects of logging on the freshwater environment of salmon and steelhead were studied.

AFC-17. Construction of Elk River salmon hatchery. 1967-1968. $462,000 ($231,000). A hatchery was constructed in Curry County and will produce two million coho and fall chinook salmon annually.

AFC-18. Development and improvement of hatchery techniques. 1967-1970. $864,800 ($420,500). To improve nutritional qualities of pellets to feed salmon, and to develop methods to control fish diseases.

AFC-19. Management of the troll salmon fishery. 1967-1970. $134,400 ($67,200). The use of barbless hooks as management tool and the radionuclide Zn^{65} as a means of identifying salmon are investigated.

AFC-20. Development of the parr-smolt transformation. 1967-1971. $107,446. ($43,130). To determine the role of temperature and light as a stimulus in the parr-smolt transformation.

AFC-21. Increased production of anadromous salmonids. 1967-1968. $48,200 ($24,100). Located sources of hatchery water, and mapped spawning and nursery areas and barriers to fish movement.

AFC-22. Production and distribution of salmon at Alsea River hatchery. 1967-1968. $66,805 ($18,700). Unfed fingerlings and excess adults were released in barren streams and lakes having rearing potential.

AFC-23. Effects of logging on salmon. 1968-1970. $57,200 ($28,600). Summarized data on spawning runs, production and survival of smolts from 3 coastal streams during a 7-year prelogging inventory.

AFS-24. Flood control ... Lint Slough impoundment. 1967-1969. $66,800 ($33,400). Flood prevention was studied, as were evaluation facilitation and environmental control improvement.

AFS-25. Completion ... Corvallis Research laboratory. 1967-1969. $101,000 ($50,500). The fishery research lab was completed and new work space provided for salmon and steelhead studies.

AFC-25. Stream improvement. 1967. $7,600 ($3,800). A culvert was removed to allow salmon passage on Clear Creek, tributary to Kilchis River.

AFC-26. Research on wild and hatchery produced salmon. 1968-1970. $100,000 ($50,000). Elk River fall chinook stocks were studied to determine effects of introduced fish on natural populations.

AFS-27. Spawning area development for fall chinook ... 1968-1970. $90,000 ($23,150). Spawning area for fall chinook salmon was developed and survival of the fish to seaward migration was ensured.

AFS-28. Racial study on steelhead. 1968-1971. $24,000 ($9,500). To study questions in regard to artificially stocking steelhead and in regard to the management of the steelhead sport fishery.

OREGON (con't)

AFC-[illegible]. Hatch, rear, and release salmon at North Umpqua River hatchery. 1968-1970. $[illegible],000 ($[illegible],000). Provided for production and distribution of coho and fall chinook salmon fingerlings.

AFC-[illegible]. Ecological and fish cultural study of steelhead trout. 1968-1971. $[illegible],000 ($[illegible],000). To determine the attributes of steelhead races in each river, and the best use of hatchery product.

AFC-[illegible]. Gold Ray Dam viewing chamber. 1968-1969. $[illegible],000 ($[illegible],000). Construction of this fac an evaluation of hatchery contributions to the sport fishery in the Rogue River basin was facilitated.

AFC-[illegible]. Cedar Creek hatchery ... improvement. 1968-1970. $[illegible],470 ($[illegible],[illegible]). A water recirculation system was provided, weir and fish trap constructed, and feasibility of developing rearing pond studied.

AFC-[illegible]. Cape Meares Lake- ... rearing of fall chinook. 1969-1971. $[illegible],000 ($[illegible],[illegible]). To rear fall chinook, providing structures to control water levels, and to assess total production and return.

AFC-[illegible]. Passage for salmon on coastal streams. 1968-1969. $[illegible],[illegible] ($[illegible],[illegible]). Nine log jams were removed to provide access to be taken of salmon spawning and nursery areas.

AFC-[illegible]. Hatch, rear, and release salmonids at Cox River hatchery. 1968-1970. $[illegible],[illegible] ($[illegible],[illegible]). Operation costs for salmon egg taking, egg incubation, and rearing to migrant size were provided.

AFC-[illegible]. Salmon investigations. 1968-[illegible]. $[illegible],[illegible] ($[illegible],[illegible]). Introduction of hatchery produced fry to barren streams and lakes are evaluated.

AFC-[illegible]. Construction of rearing pond at Trask River salmon hatchery. 1968-1[illegible]. $[illegible],000 ($[illegible],000). A 1-acre dirt pond with rearing capacity of one million salmon smolts annually was constructed.

AFC-[illegible]. North Umpqua River power. [illegible]-1971. $[illegible],[illegible] ($[illegible],000). To improve the operation of Rock Creek hatchery by adding adult spring chinook salmon and steelhead trout to maturation.

AFC-[illegible]. Fish and river salmon culture. [illegible]-1970. $[illegible],000 ($[illegible],000). This project will provide facilities for pilot production of salmon for direct release into marine waters.

AFC-[illegible]. Fish passage and hatchery improvement engineering. 1970-1971. $40,000 ($40,000). To prepare estimates for construction of fishways, a rearing pond, and other facilities at Alsea.

AFC-[illegible]. Alsea hatchery improvements. 1970-1971. $[illegible],000 ($[illegible],000). To increase production of the hatchery by enlarging the water supply system, remodeling trapping facility and building ponds.

AFC-[illegible]. Fall chinook rehabilitation .. 1970-1971. $[illegible],000 ($[illegible],[illegible]). To determine most rearing and trap location techniques, improve reproduction potential and determine significance of vitrinois.

AFC-[illegible]. Immediate effects of logging ... 1970-1971. $[illegible],000 ($[illegible]). To expand present study of the effects of logging on the Alsea watershed monitored to other areas, and determine influence of changes.

AFC-[illegible]. Smith River fishway improvement. 1970-1971. $[illegible],000 ($[illegible],[illegible]). To provide fish passage over Smith River Falls and to increase fish production in Smith River system above the falls.

PENNSYLVANIA

AFC-[illegible]. Feasibility of ... shad runs, Conewago Creek. 1967-1[illegible]. $[illegible],000 ($[illegible],[illegible]). Fertilized eggs were hatched in the stream to determine suitability of the waters for restoration of shad runs.

AFC-[illegible]. Delaware River basin ... studied. 1968-1971. $[illegible],[illegible] ($[illegible],000). To develop sport and commercial fisheries of the basin with special emphasis on American shad and striped bass.

AFC-[illegible]. Coho salmon in ... Lake Erie. 1968-1971. $[illegible],[illegible] ($[illegible],[illegible]). To establish coho salmon in lake Erie by means of construction, rearing, and imprinting facilities.

AFC-[illegible]. Restoration of shad, Conodoguinet Creek. 1969-1971. $[illegible],000 ($[illegible],000). To install low-head dams for fish passage and to transplant fertilized shad eggs in upper reaches of the stream.

WEST VIRGINIA

AFC-[illegible]. Construction of fish culture.

RHODE ISLAND (con't)

1967-1971. $430,000 ($101,000). To construct fishways and develop runs of alewives, American shad and salmon in order to provide commercial and sport fishing.

SOUTH CAROLINA

AFC-1. Survey of sturgeon fishery. 1967. $10,000 ($5,000). Provided for inventory of sturgeon fisheries in Wyanah Bay to obtain information for improved management of the resource.

AFS-2. Anadromous fishes survey. 1967-1970. $258,000 ($44,166). Basic physical, chemical, biological and historical data pertaining to anadromous fish species in South Carolina was obtained.

AFS-3. Detail studies of the Santee and Cooper Rivers. 1970-1975. $200,000 ($25,000). To obtain biological, chemical and physical data on the anadromous species in the Santee and Cooper Rivers.

VERMONT

AFS-1. Shad spawning habitat inventory. 1967. $650 ($325). A quantitative inventory of available shad spawning and rearing habitat in Connecticut River tributaries below Wilder Dam was obtained.

AFS-2. Rearing of Atlantic salmon smolt for Connecticut River ... 1967-1969. $1,500 ($750). Atlantic salmon parr were reared to smolt stage for experimental planting below Holyoke Dam, Massachusetts.

AFS-3. Survey of obstructions ... Connecticut River ... 1967-1970. $1,500 ($750). A descriptive inventory of natural and man-made barriers to migratory fish was obtained.

AFS-4. Connecticut River Basin studies. 1967-1972. $70,500 ($14,600). To determine research and management needs in the Basin and to design a program to meet those needs.

VIRGINIA

AFC-1. Biology and utilization of anadromous alosids. 1967-1970. $549,165 ($297,082). To investigate the biology and utilization of alewife and blueback herring.

AFS-3. Limiting factors ... metabolism of striped bass. 1967-1971. $30,000 ($7,500). To study uptake, toxicity and excretion levels of zinc and copper in the life stages of striped bass.

AFS-4. Estimation of parameters of striped bass ... 1967-1970. $666,876 ($200,000). Those population parameters essential to the creation of a management program for Lower Chesapeake Bay estimated.

AFS-5. Cooperative study of striped bass ... 1968-1970. $2,500 ($1,250). A review and analysis of Atlantic Coast striped bass migrations was undertaken, using data from previous tagging studies.

AFS-6. Feasibility of increasing striped bass ... 1970-1973. $480,000 ($30,000). To locate tributaries with suitable nursery ground, and stock stream, assessing survival of stocked population.

WASHINGTON

AFC-1. Salmon rearing operations. 1967. $480,000 ($240,000). 11 State-owned salmon hatcheries were operated which made available an estimated 264,375 coho and 145,425 chinook to the fisheries.

AFS-2. Development of Bogachiel ... fish ponds. 1967-1968. $100,500 ($50,250). A sport fishery was provided for steelhead trout in the Bogachiel River by the development of a semi-natural area.

AFS-3. Development of Tokul Creek ... fish ponds. 1966-1967. $94,500 ($47,250). The existing sport fishery was enhanced by the development of a pond for rearing yearling steelhead trout.

AFC-4. Coordination. 1966-1969. $22,000 ($11,000). Provided for the supervision and administration of Public Law 89-304 projects.

AFC-5. Construction of Soleduck River salmon hatchery. 1967-1968. $1,666,000 ($833,000). A hatchery is under construction in Clallum County which will be able to rear about two million salmon annually.

AFS-6. Tokul Creek rearing pond, operation and maintenance. 1967-1970. $50,727 ($25,363). The existing sport fishery was enhanced by pond rearing winter steelhead trout to smolt size.

AFS-7. Bogachiel rearing pond,

construction and maintenance. 1967-1970. $75,000 ($15,917). A sport fishery was provided for steelhead trout by rearing fish to smolt size in a rearing pond.

AFC-6. Stream improvement planning. 1967-1968. $20,000 ($10,000). Coastal streams were surveyed and priorities assigned to each one for improvement needs.

AFC-7. Lamish salmon hatchery water supply and rearing pond. 1969-1970. $54,000 ($4,000). Pump and transport facilities for supplemental water supply and a denitrification tower were installed.

AFC-10. Development of Green River fish ponds. 1967-1970. $146,000 ($73,000). The winter steelhead fishery was augmented, and a summer steelhead fishery established by developing rearing pond.

AFC-11. Development of Skokomish fish ponds. 1967-1970. $100,000 ($73,000). The sport fishery for sea-run cutthroat trout was supplemented and enhanced through the development of a rearing pond.

AFC-12. Port Susan-Port Gardner pink salmon studies. 1967-1969. $30,000 ($14,000). About 200,000 salmon were marked and released in Puget Sound to observe origin, timing and movement of fish.

AFC-13. Measurement of spawning success of salmon. 1967-1970. $30,000 ($15,000). A spawning channel was developed to study survival and fry quality under controlled conditions.

AFC-14. Gill net brood stock. 1968-1970. $40,000 ($20,000). Information was obtained on the rate of salmon brought for gill nets of various mesh sizes and on survival of fish that escaped.

AFC-15. Kalama hatchery pond construction. 1968-1969. $40,000 ($24,000). A 5-acre rearing pond salmon rearing pond was added to this State-owned hatchery located in Whatcom County.

AFC-16. Glenwood hatchery rearing pond. 1968-1970. $30,000 ($21,000). An additional rearing pond for full cultured coho salmon was constructed at this State-owned hatchery on Hatchery River.

AFC-17. Lewis hatchery rearing pond. 1969. $22,000 ($11,000). To extend rearing time for yearling coho salmon, a pond was added to this State-owned hatchery in King County.

AFC-18. Development of a long-range plan for steelhead fish. 1967-1970. $40,000 ($21,000). Developed a program for sport fishes designed to satisfy existing needs and serve as long-range plan.

AFC-20. Repair and stabilization ... Tokul Creek pond. 1968-1969. $27,000 ($11,750). The water supply to the fish pond and hatchery was secured, and the rearing impoundment protected from floods.

AFC-21. Skagit River ... steelhead development. 1967-1970. $100,000 ($ 4,.00). A summer-run steelhead fishery was established and maintained in the upper reaches of the Skagit River.

AFC-23. Cascade River stream improvement. 1969-1969. $8,000 ($4,000). The stream bed was altered to create flows and velocities favorable to passage of salmon with minimum delay.

AFC-24. Washel River stream improvement. 1969. $8,000 ($4,000). A log jam obstructing the upstream passage of salmon was removed, which made 20 miles of stream available to spawning salmon.

AFC-25. Green River hatchery pond conversion. 1969. $27,000 ($13,500). Salmon rearing dirt bottom ponds were converted to concrete bottom ponds for improved operation and fish handling.

AFC-26. Skagit hatchery holding and rearing ponds. 1969. $19,.00 ($07,342). Holding ponds for salmon at this State-owned hatchery were modernized and enlarged. One rearing pond was added.

AFC-28. Green River fish ponds, operation and maintenance. 1968-1970. $40,000 ($20,000). The winter steelhead fishery was augmented and a summer steelhead fishery established in the Green River.

AFC-29. Construction of South Tacoma fish hatchery. 1968-1970. $30,000 ($15,000). To provide facilities for the production of 3.0 million fish fry required for rearing improvements.

AFC-30. Mill Creek fish passage facility. 1969. $10,000 ($5,000). A fish passage facility was constructed through a 9-foot falls that opened up 5 miles of salmon spawning and nursery sites.

AFC-31. Upper Washel River stream

improvement. 1969. $5,000 ($2,500). Log-jams were removed and stream gradients reduced at cascades and small falls to assure salmon access to 20 miles of stream.

AFC-35. Puget Sound resident coho study. 1969-1973. $72,000 ($12,200). About 4,000 coho salmon--half wild and half hatchery produced--will be marked and released to obtain future rearing data.

AFC-37. Stream catalogue. 1969-1971. $52,000 ($26,000). To assemble the mass of accumulated data gathered on stream characteristics and anadromous fish utilization of Puget Sound and Chehalis Basin.

AFC-38. Spawning gravel improvement. 1969-1970. $13,000 ($6,800). To define factors of damage which affect spawning areas where salmon production has been destroyed or reduced.

AFC-39. Upper Chehalis River stream improvement. 1969-1970. $12,000 ($6,000). To remove Fish Falls by blasting which will open up 19 miles of spawning and nursery areas to coho and chinook salmon.

AFC-40. Design for future program construction. 1970. $42,000 ($21,000). To prepare construction plans, specifications, and cost estimates collectively for nine small construction projects.

AFS-41. Operation of Shelton ... fish pond. 1970. $90,300 ($5,150). The fishery for sea-run cutthroat trout was supplemented and enhanced by producing the maximum number of good quality migrants.

AFS-42. Development of Skykomish River ... fish pond. 1970-1974. $208,700 ($104,350). To provide an increased steelhead fishery in the Skykomish and Snohomish River systems.

AFC-43. North Fork Newaukum River fish passage. 1970. $15,000 ($7,500). To provide adequate coho salmon passage at a falls-cascade area which will open up about 10 miles of spawning and nursery grounds.

AFS-44. Anadromous fish program evaluation. 1970-1974. $54,000 ($13,700). To evaluate cutthroat and steelhead programs in which anadromous fish matching funds are expended.

AFC-45. Issaquah ponds reversion. 1970. $95,000 ($47,500). To increase the efficiency of operation of two rearing ponds by asphalt lining dirt ponds and providing concrete outlet structures.

AFS-48. Operation of fish ponds ... 1970-1974. $468,000 ($0). To operate ponds constructed with P.L. 89-304 funds to provide maximum production of steelhead and sea-run cutthroat trout migrants.

WISCONSIN

AFS-1. Production and stocking ... rainbow and brown trout ... 1966-1967. $147,000 ($40,000). Stocks of anadromous salmonids in Lakes Superior and Michigan were increased.

AFC-2. Walleye population study. 1967. $15,000 ($7,500). Walleye were tagged and released between Port Wing and Superior Harbor on Lake Superior to estimate population size and to observe movement.

AFS-3. Coho-steelhead stocking ... Superior and Michigan. 1968-1969. $170,000 ($85,000). Stocks of anadromous salmonids in Lakes Superior and Michigan were increased.

AFS-4. Salmon and trout fishery ... Superior and Michigan. 1968-1969. $170,000 ($85,000). The sport fishery resource in the western Great Lakes was improved.

AFC-4. Study of thyroidal, interrenal, and gonadal activity in alewife. 1968-1970. $14,000 ($7,000). Histological examination was made of glandual tissue to observe seasonal changes in activity.

AFC-5. Reproductive cycle of alewife. 1968-1971. $55,930 ($26,885). Maturation of gonads are studied to describe and compare development stages in different year classes of alewife in Lake Michigan.

AFC-6. Population dynamics of juvenile alewife and coregonids. 1968-1969. $22,400 ($11,200). Used experimental drop nets to determine distribution and relative abundance of fish throughout Green Bay.

AFS-7. ... Fisheries research and development. 1969-1970. $1,015,000 ($186,526). To improve the sport fisheries resources of the western Great Lakes by developing salmon and steelhead.

AFC-8. Evaluation of commercial fishery potential. 1969-1970. $2,000 ($1,000). Walleye are marked and released near Superior Harbor to obtain information on migratory behavior.

DISTRIBUTION OF ANADROMOUS FISH CONSERVATION FUNDS, FISCAL YEARS 1967-70

(In thousands of dollars)

State	F.Y. 1967	F.Y. 1968	F.Y. 1969	F.Y. 1970	Total
Alabama	$ 10.0	$ 22.5	$ 22.5	$ 17.5	$ 72.5
Alaska	219.6	618.4	500.4	488.4	1,842.7
California	165.7	598.0	592.5	614.5	2,167.7
Connecticut	10.0	40.5	35.9	38.0	124.4
Delaware	10.4	60.0	82.5	55.0	207.9
Florida	0	20.0	25.0	27.5	77.5
Georgia	10.1	37.0	31.5	35.8	114.4
Hawaii	0	0	0	0	0
Illinois	0	0	5.0	12.0	17.0
Indiana	0	0	0	10.0	10.0
Louisiana	10.0	25.0	25.0	0	60.0
Maine	142.0	236.5	241.4	154.2	784.1
Maryland	80.0	77.5	54.5	78.2	290.2
Massachusetts	15.0	28.6	35.6	23.6	102.8
Michigan	310.0	615.0	655.0	645.0	2,225.0
Minnesota	13.0	44.4	25.0	25.0	107.4
Mississippi	10.0	23.5	27.5	60.0	125.0
New Hampshire	0	20.0	47.6	39.7	107.3
New Jersey	15.0	15.0	18.2	11.9	60.1
New York	25.0	96.0	31.0	45.0	195.0
North Carolina	27.0	62.0	43.8	46.2	179.0
Ohio	13.0	31.0	29.0	6	78.0
Oregon	267.8	647.5	623.3	634.5	2,173.1
Pennsylvania	10.0	22.0	32.5	22.0	86.5
Rhode Island	10.0	35.0	51.0	28.5	124.5
South Carolina	15.0	10.0	24.2	40.0	89.2
Texas	0	0	0	0	0
Vermont	.3	1.0	4.0	7.4	12.7
Virginia	93.0	140.0	128.0	179.6	537.6
Washington	300.0	650.9	864.1	635.6	2,230.5
Wisconsin	47.5	181.7	106.5	206.8	481.5
Special Allocation	38.5	81.2	80.0	77.0	276.7
TOTAL	$2,063.5	$4,400.0	$4,259.0	$4,254.9	$14,979.4

Public Law 89-304
89th Congress, H. R. 23
October 30, 1965

An Act

79 STAT. 1125

To authorize the Secretary of the Interior to initiate with the several States a cooperative program for the conservation, development, and enhancement of the Nation's anadromous fish, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled. That (a) for the purpose of conserving, developing, and enhancing within the several States the anadromous fishery resources of the Nation that are subject to depletion from water resources developments and other causes, or with respect to which the United States has made conservation commitments by international agreements, and for the purpose of conserving, developing, and enhancing the fish in the Great Lakes that ascend streams to spawn, the Secretary of the Interior is authorized to enter into cooperative agreements with one or more States, acting jointly or severally, that are concerned with the development, conservation, and enhancement of such fish, and, whenever he deems it appropriate, with other non-Federal interests. Such agreements shall describe (1) the actions to be taken by the Secretary and the cooperating parties, (2) the benefits that are expected to be derived by the States and other non-Federal interests, (3) the estimated cost of these actions, (4) the share of such costs to be borne by the Federal Government and by the States and other non-Federal interests: *Provided.* That the Federal share, including the operation and maintenance costs of any facilities constructed by the Secretary pursuant to this Act, which he annually determines to be a proper Federal cost, shall not exceed 50 per centum of such costs exclusive of the value of any Federal land involved: *Provided further.* That the non-Federal share may be in the form of real or personal property, the value of which will be determined by the Secretary, as well as money, (5) the term of the agreement, (6) the terms and conditions for disposing of any real or personal property acquired by the Secretary during or at the end of the term of the agreement, and (7) such other terms and conditions as he deems desirable.

Anadromous and Great Lakes fisheries. Conservation.

Cooperative agreement provisions with the States.

Federal and non-Federal costs.

(b) The Secretary may also enter into agreements with the States for the operation of any facilities and management and administration of any lands or interests therein acquired or facilities constructed pursuant to this Act.

Management functions.

SEC. 2. The Secretary, in accordance with any agreements entered into pursuant to section 1(a) of this Act, is authorized (1) to conduct such investigations, engineering and biological surveys, and research as may be desirable to carry out the program; (2) to carry out stream clearance activities; (3) to construct, install, maintain, and operate devices and structures for the improvement of feeding and spawning conditions, for the protection of fishery resources, and for facilitating the free migration of the fish; (4) to construct, operate, and maintain fish hatcheries wherever necessary to accomplish the purposes of this Act; (5) to conduct such studies and make such recommendations as the Secretary determines to be appropriate regarding the development and management of any stream or other body of water for the conservation and enhancement of anadromous fishery resources and the fish in the Great Lakes that ascend streams to spawn: *Provided*, That the reports on such studies and the recommendations of the Secretary shall be transmitted to the States, the Congress, and the Federal water resources construction agencies for their information: *Provided further.* That this Act shall not be construed as authorizing the formulation or construction of water resources projects, except

Investigations, surveys, studies, etc.

Reports to States, Congress and others.

79 STAT. 1125

that water resources projects which are determined by the Secretary to be needed solely for the conservation, protection, and enhancement of such fish may be planned and constructed by the Bureau of Reclamation in its currently authorized geographic area of responsibility, or by the Corps of Engineers, or by the Department of Agriculture, or by the States, with funds made available by the Secretary under this Act and subject to the cost-sharing and appropriation provisions of this Act; (6) to acquire lands or interests therein by purchase, lease, donation, or exchange for acquired lands or public lands under his jurisdiction which he finds suitable for disposition: *Provided*, That the lands or interests therein so exchanged shall involve approximately equal values, as determined by the Secretary: *Provided further*, That the Secretary may accept cash from, or pay cash to, the grantor in such an exchange in order to equalize the values of the properties exchanged; (7) to accept donations of funds and to use such funds to acquire or manage lands or interests therein; and (8) to administer such lands or interests therein for the purposes of this Act. Title to lands or interests therein acquired pursuant to this Act shall be in the United States.

SEC. 3. Activities authorized by this Act to be performed on lands administered by other Federal departments or agencies shall be carried out only with the prior approval of such departments or agencies.

Appropriations.

SEC. 4. (a) There is authorized to be appropriated for the period ending on June 30, 1970, not to exceed $25,000,000 to carry out the purposes of this Act.

(b) Not more than $1,000,000 of the funds appropriated under this section in any one fiscal year shall be obligated in any one State.

SEC. 5. This Act shall not be construed to affect, modify, or apply to the same area as the provisions of the Act of May 11, 1938 (52 Stat. 345), as amended (16 U.S.C. 755–757).

Recommendations to HEW.
80 Stat 1091.

SEC. 6. The Secretary of the Interior shall, on the basis of studies carried out pursuant to this Act and section 5 of the Fish and Wildlife Coordination Act (48 Stat. 402), as amended (16 U.S.C. 664), make recommendations to the Secretary of Health, Education, and Welfare concerning the elimination or reduction of polluting substances detrimental to fish and wildlife in interstate or navigable waters or the tributaries thereof. Such recommendations and any enforcement measures initiated pursuant thereto by the Secretary of Health, Education, and Welfare shall be designed to enhance the quality of such waters, and shall take into consideration all other legitimate uses of such waters.

Approved October 30, 1965.

LEGISLATIVE HISTORY:

HOUSE REPORT NO. 1007 (Comm. on Merchant Marine & Fisheries).
SENATE REPORT NO. 849 (Comm. on Commerce).
CONGRESSIONAL RECORD, Vol. 111 (1965):
Sept. 2: Considered and passed House.
Oct. 13: Considered and passed Senate, amended.
Oct. 14: House agreed to Senate amendments.

Public Law 91-249
91st Congress, H. R. 1049
May 14, 1970

An Act

To amend the Anadromous Fish Conservation Act of October 30, 1965, relating to the conservation and enhancement of the Nation's anadromous fishing resources, to encourage certain joint research and development projects, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) the first proviso contained in the second sentence of subsection (a) of the first section of the Act of October 30, 1965 (16 U.S.C. 757a(a)), is amended by inserting ", except as provided in subsection (c) of this section," immediately before "the Federal share". Anadromous Fish Conservation Act, amendment. 79 Stat. 1125.

(b) The first section of such Act of October 30, 1965 (16 U.S.C. 757a), is further amended by adding at the end thereof the following new subsection: Federal and non-Federal costs.

"(c) Whenever two or more States having a common interest in any basin jointly enter into a cooperative agreement with the Secretary under subsection (a) of this section to carry out a research and development program to conserve, develop, and enhance anadromous fishery resources of the Nation, or fish in the Great Lakes that ascend streams to spawn, the Federal share of the program costs shall be increased to a maximum of 60 per centum. Structures, devices, or other facilities, including fish hatcheries, constructed by such States under a cooperative agreement described in this subsection shall be operated and maintained without cost to the Federal Government. For the purpose of this subsection, the term 'basin' includes rivers and their tributaries, lakes, and other bodies of water or portions thereof." "Basin."

SEC. 2. Subsection (a) of section 4 of such Act of October 30, 1965 (16 U.S.C. 757d(a)), is amended by adding at the end thereof the following new sentences: "There is authorized to be appropriated to carry out this Act, not to exceed $6,000,000 for the fiscal year ending June 30, 1971, not to exceed $7,500,000 for the fiscal year ending June 30, 1972, not to exceed $8,500,000 for the fiscal year ending June 30, 1973, and not to exceed $10,000,000 for the fiscal year ending June 30, 1974. Sums appropriated under this subsection are authorized to remain available until expended.". Appropriation.

SEC. 3. Such Act of October 30, 1965 (16 U.S.C. 757a–757f), is amended by adding at the end thereof the following new section: Citation of act.

"SEC. 7. This Act may be cited as the 'Anadromous Fish Conservation Act'."

Approved May 14, 1970.

LEGISLATIVE HISTORY:

HOUSE REPORT No. 91-808 (Comm. on Merchant Marine and Fisheries).
SENATE REPORT No. 91-808 (Comm. on Commerce).
CONGRESSIONAL RECORD, Vol. 116 (1970):
Feb. 16, considered and passed House.
Apr. 30, considered and passed Senate.

GPO 37.139

Chapter IV—Fish and Wildlife Service, Department of the Interior

PART 401—ANADROMOUS FISHERIES CONSERVATION, DEVELOPMENT AND ENHANCEMENT

On page 8139 of the FEDERAL REGISTER of June 9, 1966, there was published a notice of proposed rule making establishing Part 401 of Title 50, Code of Federal Regulations. The purpose of these regulations is to set forth procedures to be used by the Secretary in providing financial and other assistance through cooperative agreements to State agencies and other non-Federal interests in the conservation, development and enhancement of the commercial and sport anadromous fisheries resources of the Nation and fishes of the Great Lakes which ascend streams to spawn.

Interested persons were given 30 days in which to submit written comments, suggestions, or objections with respect to the proposed regulations to the Director, Bureau of Commercial Fisheries or the Director, Bureau of Sport Fisheries and Wildlife, Department of the Interior, Washington, D.C. In addition to the notice in the FEDERAL REGISTER, every State fishery agency was independently notified by letter. Also notifications were sent to other Federal interests which were represented in four meetings for discussions of proposed regulations held at Boston, Mass., St. Petersburg Beach, Fla., Ann Arbor, Mich., and Portland, Oreg., on February 18, February 24, March 8, and March 11, respectively.

Several comments were received from State fishery administrators. The majority of these comments indicated concurrence; however, a few questions were asked. Accordingly, the sections have been modified and clarifying changes have been made as follows:

1. A section entitled *Administration* has been added and coded § 401.1.

2. A paragraph defining Project proposal has been added as paragraph (h) of § 401.2.

3. The section entitled Submission of applications has been revised to include project proposals, and add the names of the two bureaus concerned. This section is recoded § 401.3.

4. A section entitled Coordination with States has been added and coded § 401.4.

5. The section entitled Safety and accident prevention has been revised to delete the following words from the last sentence: "[illegible] plans, specifications, and estimates relating to [illegible]." This section is recoded § 401.17.

6. The section entitled Civil rights has been revised to replace the word "[illegible]" with the words "as [illegible] by [illegible]." This section is recoded § 401.23.

Therefore, all comments having been fully considered and no other changes being deemed necessary, the Part as so proposed is hereby adopted, subject to the above changes, and is to read as set forth below. These regulations are effective upon publication in the FEDERAL REGISTER.

Sec.

AUTHORITY: The provisions of this Part 401 issued under P.L. 89-304.

§ 401.1 Administration.

The Bureau of Commercial Fisheries and the Bureau of Sport Fisheries and Wildlife shall jointly administer the Anadromous Fish Act for the Secretary.

§ 401.2 Definitions.

As used in this part, terms shall have the meanings ascribed in this section.

(a) *Secretary.* The Secretary of the Interior or his authorized representatives.

(b) *Act.* Public Law 89-304, the Anadromous Fish Act of 1965.

(c) *State.* Any State of the United States which has had or now contains anadromous fish and the States bordering the Great Lakes.

(d) *State fishery agency.* Any department, division, commission, or official or officials of a State empowered under its laws to administer the commercial or sport fishery.

(e) *Non-Federal interest.* Any organization, association, institution, business, school, individual, or group of individuals, municipality, and others outside the Federal Government in addition to State fishery agencies who desire to cooperate within the terms of the Act.

(f) *Cooperator.* A State fishery agency or other non-Federal interest participating in a cooperative agreement with the Secretary.

(g) *Anadromous fish.* Aquatic, gill-breathing, vertebrate animals bearing paired fins which migrate to and spawn in fresh water, but which spend part of their life in salt water, and fish which spend part of their life in the Great Lakes and spawn in streams tributary to the Great Lakes.

(h) *Project proposal.* A description of work to be accomplished, including objectives, procedures, time schedules, and costs required for completion.

(i) *Cooperative agreement.* (1) The document which describes conservation, development, and enhancement activities to be carried on as provided by the Act. Such agreements shall set forth the responsibilities of the cooperator and the Secretary, the [illegible] of the undertaking, the estimated cost to each cooperator, the term of the agreement, disposition of real or personal properties, and such other information as is appropriate.

(2) Cooperative agreements constitute the basis for projects and shall conform to the documentation requirements prescribed by the Secretary.

(j) *Project.* Any undertaking involving the conservation, enhancement and development of anadromous fish. A project is established upon execution of a cooperative agreement.

§ 401.3 Submission of applications.

Project proposals and proposed cooperative agreements shall be submitted to the concerned Regional or Area Office of the Bureau of Commercial Fisheries or the Bureau of Sport Fisheries and Wildlife.

§ 401.4 Coordination with States.

The Secretary shall not enter into a cooperative agreement with a non-Federal interest other than a State unless the project agreed upon has approval of the State agency responsible for the fishery resource which will be affected.

§ 401.5 Prosecution of work.

(a) The cooperator shall carry projects through to a stage of completion acceptable to the Secretary with reasonable promptness. Failure to render satisfactory progress reports or failure to complete the project to the satisfaction of the Secretary shall be cause for the Secretary to withhold further payments until the project provisions are satisfactorily met. Projects may be terminated upon determination by the Secretary that satisfactory progress has not been maintained. The Secretary shall have the right to inspect and review work being done at any time.

(b) Research and/or development work shall be continuously coordinated by the cooperator with studies conducted by others to avoid unnecessary duplication.

(c) All work shall be performed in accordance with applicable State laws except when in conflict with Federal laws or regulations, in which case Federal laws or regulations shall prevail.

§ 401.6 General information for the Secretary.

Before any Federal funds may be obligated for any project the cooperator shall furnish to the Secretary upon his request, information regarding the laws affecting anadromous fish and the authority of a cooperator to participate in the benefits of the Act.

(a) *Document signature.* Individuals authorized to sign project documents under the Commercial Fisheries Research and Development Act or the Federal Aid in Fish Restoration Act may likewise sign cooperative agreements under this Act.

(b) *Program information.* The Secretary may from time to time request and the cooperators shall furnish information relating to the administration and maintenance of any project established under the Act.

§ 401.7 Availability of funds.

Language appearing in Appropriation Acts providing funds for this program will govern the period during which the funds may be obligated.

§ 401.8 Payments to cooperators.

Payments shall be made to cooperators as work described in cooperative agreements progresses and is completed.

§ 401.9 Forms of vouchers.

Vouchers on forms provided by the Secretary and certified as therein prescribed showing amounts expended on each project, and the Federal portion claimed to be due on account thereof, shall be submitted to the Secretary by the cooperator.

§ 401.10 Property as matching funds.

The non-Federal share of the cost of projects may be in the form of real or personal property. To establish the value of such property the cooperator shall furnish such market value appraisal information as the Secretary may require prior to execution of a cooperative agreement.

§ 401.11 Economy and efficiency of operations.

No cooperative agreement shall be executed until the cooperator has shown to the satisfaction of the Secretary that appropriate and adequate means shall be employed to achieve economy and efficiency in the completion of the project.

§ 401.12 Ownership of property.

When real property is acquired pursuant to the provisions of the Act, title to such property or interest therein shall be vested in the United States, and the conveying instrument shall recite the United States of America as the grantee. However, if the Secretary determines that under the terms of the cooperative agreement, the intent and purpose of the Act may be better served by State ownership of such property, an appropriate transfer may be made. When real or personal property is utilized by the State as matching funds, title to such property shall remain in the State. When real or personal property is utilized as matching funds by a cooperator other than the State, title shall be in the State unless otherwise specified in the cooperative agreement.

§ 401.13 Personnel.

The cooperator shall maintain an adequate and competent force of employees to initiate and carry cooperative agreements to satisfactory completion. Personnel employed on projects shall be selected on the basis of their competence to perform the services required and shall conduct their duties in a manner acceptable to the Secretary.

§ 401.14 Inspection.

Supervision of each project shall be as specified in the cooperative agreement and shall include adequate and continuous inspection. The project will be subject at all times to Federal inspection.

§ 401.15 Records retention.

All records of accounts and reports, with supporting documentation thereto, will be retained by the cooperator for a period of 3 years after final audit is made by the Federal Government.

§ 401.16 Reporting.

Progress and final reports shall be submitted to the Secretary by the cooperator in accordance with reporting requirements prescribed by the Secretary. Reports should be in the form of publications whenever appropriate. Progress and final reports will be placed in permanent depository for future reference.

§ 401.17 Safety and accident prevention.

In the performance of each project, the cooperator shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation. The cooperator shall be responsible for ascertaining that all safeguards, safety devices, and protective equipment are provided. The cooperator will take any other needed actions reasonably necessary to protect the life and health of employees on the job, the safety of the public, and the protection of property used in connection with the performance of the work covered by the project.

§ 401.18 Contracts.

Supply, service, equipment, and construction contracts, other than research and development contracts and contracts for professional services, involving an expenditure of $2,500 or more entered into by a cooperator for the execution of approved project activities, shall be based upon free and open competitive bids. If a contract is awarded to other than the lowest responsible bidder, the payment of the Federal portion of the cost of the project shall be based on the lowest responsible bid, unless it is satisfactorily shown that it was advantageous to the project to accept a higher bid. Upon request, the cooperator shall certify and promptly furnish to the Secretary a copy of each contract executed and copies of all bids received concerning the contract. Contracts for research, development, and professional services may be negotiated, provided that the Secretary is satisfied that adequate steps are taken to insure economical and efficient services and the impartial selection of contractors.

§ 401.19 Statements and payrolls.

The regulations of the Secretary of Labor applicable to contractors and subcontractors (29 CFR Part 3), made pursuant to the Copeland Act, as amended (40 U.S.C. 276c), and to aid in the enforcement of the Anti-Kickback Act (18 U.S.C. 874) are made a part of the regulations in this part by reference. The cooperator will comply with the regulations in this part and any amendments or modifications thereof and the cooperator's prime contractor will be responsible for the submission of statements required of subcontractors thereunder. The foregoing shall apply except as the Secretary of Labor may specifically provide for reasonable limitation, variations, tolerances, and exemptions.

§ 401.20 Officials not to benefit.

No Member of, or Delegate to, Congress, or Resident Commissioner, shall be admitted to any share or any part of an agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this agreement if made with a corporation for its general benefit.

§ 401.21 Patents and inventions.

Determination of the patent rights in any inventions or discoveries resulting from work under cooperative agreements entered into pursuant to the Act shall be governed by the Statement of Government Patent Policy promulgated by the President in his memorandum of October 10, 1963 (3 CFR, 1963, Supp., p. 238, 28 F.R. 10943).

§ 401.22 Convict labor.

In connection with the performance of work, the cooperator agrees not to employ any person undergoing sentence of imprisonment at hard labor.

§ 401.23 Civil rights.

Each cooperative agreement shall be supported by a statement of assurance executed by the cooperator providing that the project will be carried out in accordance with Title VI, Nondiscrimination in Federally Assisted Programs, of the Civil Rights Act of 1964 and with the Secretary's regulations promulgated thereunder.

STEWART L. UDALL,
Secretary of the Interior.

SEPTEMBER 2, 1966.

[F.R. Doc. 66-9938; Filed, Sept. 9, 1966; 8:46 a.m.]

COOPERATORS

Under the Anadromous and Great Lakes Fisheries Conservation Program the Secretary of the Interior is authorized to enter into cooperative agreements with one or more States, acting jointly or severally, that are concerned with the development, conservation, and enhancement of anadromous fish, and, whenever he deems it appropriate, with other non-Federal interests. Following is a list of participants and addresses.

ALABAMA

Department of Conservation
State Administrative Building
64 North Union
Montgomery, Alabama 36104

Auburn University
Auburn, Alabama 36830

ALASKA

Department of Fish and Game
Subport Building
Juneau, Alaska 99801

CALIFORNIA

Department of Fish and Game
1416 Ninth Street
Sacramento, California 95814

CONNECTICUT

State Board of Fisheries and Game
State Office Building
Hartford, Connecticut 06115

Essex Marine Laboratory, Inc.
Essex, Connecticut 06426

DELAWARE

Commission of Shell Fisheries
State House Annex
Dover, Delaware 19901

Board of Game and Fish Commissioners
Box 457 North Street
Dover, Delaware 19901

FLORIDA

Department of Natural Resources
Larson Building
Tallahassee, Florida 32304

Division of Game and Fresh Water Fish
620 South Meridian
Tallahassee, Florida 32304

GEORGIA

State Game and Fish Commission
Trinity and Washington Building
270 Washington Street, S.W.
Atlanta, Georgia 30334

ILLINOIS

Department of Conservation
102 State Office Building
Springfield, Illinois 62706

INDIANA

Department of Natural Resources
606 State Office Building
Indianapolis, Indiana 46204

LOUISIANA

Wild Life and Fisheries Commission
400 Royal Street
New Orleans, Louisiana 70130

MAINE

Department of Sea and Shore Fisheries
State Office Building
Augusta, Maine 04330

Department of Inland Fisheries and Game
State Office Building
Augusta, Maine 04330

MARYLAND

Fish and Wildlife Administration
State Office Building
Annapolis, Maryland 21401

MASSACHUSETTS

Division of Marine Fisheries
Department of Natural Resources
100 Cambridge Street
Boston, Massachusetts 02202

MICHIGAN

Department of Natural Resources
Mason Building
Lansing, Michigan 48926

MINNESOTA

Division of Game and Fish
Department of Conservation
301 Centennial Building
658 Cedar Street
St. Paul, Minnesota 55101

MISSISSIPPI

Game and Fish Commission
Game and Fish Building
Post Office Box 451
Jackson, Mississippi 39205

MISSISSIPPI (con't)

Gulf Coast Research Laboratory
East Beach, P.O. Box AG
Ocean Springs, Mississippi 39564

Marine Conservation Commission
122 East Jackson Street
Biloxi, Mississippi 39503

NEW HAMPSHIRE

Fish and Game Department
34 Bridge Street
Concord, New Hampshire 03301

NEW JERSEY

Division of Fish and Game
Department of Conservation and Economic Development
Labor and Industry Building
P.O. Box 1390
Trenton, New Jersey 08625

NEW YORK

State Conservation Department
Division of Fish and Wildlife
State Campus Site
Albany, New York 12226

NORTH CAROLINA

Division of Commercial and Sport Fisheries
Department of Conservation and Development
P.O. Box 2919
Raleigh, North Carolina 27602

Wildlife Resources Commission
P.O. Box 2919
Raleigh, North Carolina 27602

OHIO

Division of Wildlife
Department of Natural Resources
1500 Dublin Road
Columbus, Ohio 43212

OREGON

Fish Commission
307 State Office Building
Portland, Oregon 97201

State Game Commission
P.O. Box 3503
Portland, Oregon 97208

Oregon State University
Corvallis, Oregon 97331

PENNSYLVANIA

Fish Commission
P.O. Box 1673
Harrisburg, Pennsylvania 17120

RHODE ISLAND

Division of Conservation
Department of Natural Resources
83 Park Street
Providence, Rhode Island 02903

SOUTH CAROLINA

Division of Game and Freshwater Fisheries
Wildlife Resources Department
1015 Main Street, Box 167
Columbia, South Carolina 29202

VERMONT

Fish and Game Department
151 Main Street
Montpelier, Vermont 05602

VIRGINIA

Marine Resources Commission
P.O. Box 756
Newport News, Virginia 23607

Commission of Game and Inland Fisheries
4010 West Broad Street, P.O. Box 11104
Richmond, Virginia 23230

Fisheries Research Institute
Gloucester Point, Virginia 23602

WASHINGTON

Department of Game
600 North Capitol Way
Olympia, Washington 98501

Department of Fisheries
Room 115, General Administration Building
Olympia, Washington 98501

Fisheries Research Institute
University of Washington
Seattle, Washington 98105

WISCONSIN

Department of Natural Resources
P.O. Box 450
Madison, Wisconsin 53702

GPO 896-636

As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of this department of natural resources.

The Department works to assure the wisest choice in managing all our resources so that each shall make its full contribution to a better United States now and in the future.