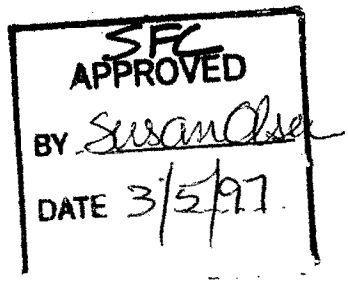

UNITED STATES
DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Region
State, Federal & Constituent Programs Division

COMPLETION REPORT

Grantee: **MAINE DEPARTMENT OF MARINE RESOURCES**

Project No: **3-ACA-019**

Grant No: **NA56FG0496**

Project Title: **INTERSTATE FISHERIES MANAGEMENT PLANNING AND IMPLEMENTATION**

Period Covered: **07/01/95 - 07/31/96**

Prepared by: **GILBERT BILODEAU**

Approved by: _____

Date: **FEBRUARY 26, 1997**

Statutory Funding Authority:
___ Anadromous Fish Conservation Act (P.L. 89-304)
___ Chesapeake Bay Studies
___ Endangered Species Act
___ Interjurisdictional Fisheries Act (Title III of P.L. 99-659)
___ Magnuson Act
___ Oyster Disease Research
___ Saltonstall-Kennedy
___ Unallied Industry Projects
___ Unallied Science Projects
__X__ ACFCMA

3-MCH-19

COMPLETION REPORT

Grant Number: NA56FG0496

Grantee: Maine Department of Marine Resources

Project Title: Interstate Fisheries Management Planning and Implementation

Amount of Grant: $75,401 Federal, $0 Match, $75,401 Total

Period Covered by this Report: July 1, 1995 through July 31, 1996

Work Accomplishments: Scheduled Tasks

The administrative associate will serve as a liaison for the Commissioner of the Maine Department of Marine Resources at Atlantic States Marine Fisheries Commission meetings and at the New England Fishery Management Council meetings for jointly managed species, coordinate with DMR technical committee members, and will convene and conduct public scoping meetings, workshops, and hearings for interstate fisheries management plans. The associate will be responsible for research on and drafting of rules and legislation for compliance with ISFMP fishery management plan requirements, and for coordination the monitoring and enforcement aspects of FMP implementation.

Work Accomplishments: Completed Tasks

This grant was amended, with the approval of the grantor NOAA, to be split to support the work of Mark Lazzari in environmental monitoring and the employment of myself, Alan Christopher Finlayson, as Assistant to the Commissioner.

The primary task of my first two months of employment was an analysis of the statutory and institutional relationships between the multiple fishery management authorities (the State of Maine, ASMFC, NMFS, NOAA, DOC, NEFMC, MAFMC, etc.). I provided the Commissioner with policy analyses of current issues, conducted issue-oriented outreach to members of the Maine fishing industry and the general public, conducted much of the liaison between DMR and the above noted regional and national fishery management agencies, attended their meetings -- either with the Commissioner or exercising her proxy, and served on their subcommittees.

More specifically, I coordinated interactions between the ASMFC fishery management process and the DMR including the Commissioner, the Departments specialized scientific and technical personnel, and the Department's enforcement arm -- the Marine Patrol. I conducted both informal and formal outreach to Maine fishing industry members and groups with an interest in proposed ASMFC management actions as an input to DMR policy positions and

action. I handled DMR relations with the media, non-fishing industry interest groups, and the general public on issues related to species and fisheries under ASMFC management plans. I conducted comparative research on the management of these species in particular and fishery management in general in other fishing nations with particular emphasis on Canadian fisheries science and management in the Northwest Atlantic.

The benefit to the Department has been substantial. The combination of the increasing complexity of the regional and national fishery management and regulatory environment and the cuts in the budget of the Department as its share of the overall cuts in the budgets of the State of Maine, had made it increasingly difficult for the Commissioner and the Department to fully and effectively participate in the supra-State structures and processes of fisheries management and to represent the best interests of our fishing industry and fisheries dependent communities and those of the State of Maine. The NOAA grant which created and funds my position significantly contributes to correcting these problems.

The work funded by this NOAA grant is to coordinate the institutional relationships between the State of Maine and the Maine Department of Marine Resources and the multiple other regional and national fishery management authorities (the State o ASMFC, NMFS, NOAA, DOC, NEFMC, MAFMC, etc.). I provide the Commissioner with policy analyses of current issues, conducted issue-oriented outreach to members of the Maine fishing industry and the general public, conduct much of the liaison between DMR and the above noted regional and national fishery management agencies, attend their meetings -- either with the Commissioner or exercising her proxy, and serve on their subcommittees in which the State of Maine and its fishing industry have interests.

As interactions between the ASMFC management process and the NMFS Magnuson Act management process have become more closely related, I have also come to participate fully in the latter. I provide issue-oriented policy analysis and briefings to the Commissioner, attend all the meetings of the NEFMC -- either in support of the Commissioner or as her proxy -- and keep DMR's scientific/technical and enforcement personnel, the Maine fishing industry and interested members of the public up to date on new or proposed NEFMC actions.

The notice of intent by NMFS to withdraw as the lead management agency for American Lobster and turn over that role to ASMFC has meant considerable additional emphasis on outreach to the Maine lobster industry to inform them what this change might mean to them and how they will have an opportunity for much greater and more significant input into the management of their fishery.

I have conducted public meetings of fishing industry members and groups in other states to explore those areas where they may have common interests with the Maine fishing industry and could more effectively participate in the management process by coordinating their efforts.

The reauthorization of the Marine Mammal Protection Act spawned a number of Take Reduction Teams to comprised of representatives from the fishing industry, state and national agencies, and conservation organizations. I served as the DMR representative on the Harbor

Porpoise Take Reduction Team to reduce the by-catch of harbor porpoise in New England gillnets.

I served on a panel to review proposals submitted for funding under the Sea Grant program.

The management of herring in the Gulf of Maine became a highly charged issue amid intense and politically charged competition for access and allocation among user groups. In partial response, DMR took an innovative lead in forming a committee of representatives from each of these competing interests. I was part of the creation of this committee and continue to serve on it as the Commissioner's representative. The committee was charged with developing strategies and action plans for resolving the basic biological questions about the relative abundance and condition of the herring resource which were fueling the conflicts. The result is an ongoing research partnership between the competing factions in the Gulf of Maine herring industry and the herring scientists of DMR and the State of Massachusetts.

NOTE: The period of this grant was extended one month by agreement between the grantor, NOAA, and the grantee.

In addition to these general and ongoing duties, during the month of July, 1996 I:

- Represented the Department on a University of Maine committee planning a new program and major course of study on marine resources science and policy.
- Facilitated meetings in Maine, New Hampshire, and Massachusetts of fishing industry groups and individuals to discuss alternative responses to the new Amendment 7 groundfish regulations.
- Wrote and presented a report of these meetings to the NEFMC.
- Represented DMR at a joint ASMFC/NEFMC meeting to discuss research priorities and program for Atlantic herring.
- Represented DMR at a joint ASMFC/NEFMC meeting in Halifax, Nova Scotia with our counterparts in Canada; managers and scientists from the Department of Fisheries and Oceans, representatives of the Nova Scotia and New Brunswick departments of Fisheries, and representatives from the Canadian herring industry. Recognizing that the Atlantic herring is a trans-boundary resource, the meetings focus was on ways to most efficiently coordinate U.S and Canadian research and management.
- Conducted an economic analysis of the U.S./Canadian bilateral herring trade.
- Represented DMR at the meeting of the ASMFC winter flounder Board.
- Represented DMR at a meeting of herring industry representatives and potential funders from the private sector for additional industry-initiated herring research.
- Attended the monthly meeting of the NEFMC and exercised the Commissioner's proxy.
- Represented DMR and the five-day meeting of the ASMFC.
- Continued to represent DMR on the Harbor Porpoise Take Reduction Team.

The DMR operates an Environmental Monitoring Program (EMP) at the Fisheries laboratory in West Boothbay Harbor. This program began in 1905 at the U.S. Commercial Fisheries fish hatchery with air and sea surface temperatures being recorded three times every day until 1949 when instruments were installed and data were recorded continuously. Environmental observations were expanded in the 1960's to include the eleven oceanographic and meteorological variables recorded today. In 1973, DMR took over the EMP and data collection, processing and storage were computerized in 1986. Currently, observations of air, sea surface and sea bottom temperatures, barometric pressure, precipitation, salinity, relative humidity, solar radiation, tide height and wind speed and direction are recorded at 15 minute, hourly, and daily intervals. Sensors are mounted in two locations, on a wind tower and on the DMR dock, and data is transferred to a central office location.

Recent technological changes by the manufacturer of our existing hardware necessitated the purchase of new dataloggers. These dataloggers send a very precise, preset voltage to a variety of sensors (i.e., temperature probes, wind speed and direction sensors, solar radiation cell, conductivity meter, barometer, relative humidity meter, tide height gauge, and precipitation gauge) and measure the voltage change caused by the environment on each sensor at an instant in time and calibrate the returning voltage into either temperature, wind speed and direction, the amount of sunlight, etc.

In January 1996, I purchased two new CR10X environmental monitoring dataloggers with their associated power supplies and hardware from Campbell Scientific, Inc. (CSI) of Logan, Utah where we were taught the basic programming skills necessary to operate the CR10X dataloggers. The dataloggers arrived on February 29 and are presently operating in limited testing capacity. I plan to run a new shorthaul modem line out the dock, install the two new CSI water temperature probes for sea surface temperature and sea bottom temperature, and to establish communication between the dock and office dataloggers and the EMP computer. This will allow for a simple, functioning system to be operational before transferring the existing Qualimetrics sensors over to the new system and "shutting off" the old Qualimetrics datalogger. In addition, this temporary system will allow for the comparison of the existing sea surface temperature and sea bottom temperatures with the new CSI system.

Technological changes by the manufacturer of our existing environmental monitoring hardware in 1995 necessitated the purchase of new dataloggers that send a very precise, preset voltage to a variety of sensors (i.e., temperature probes, wind speed and direction sensors, solar radiation cell, etc.) and measure the voltage change caused by the environment on each sensor. In January 1996, we purchased two new CR10X dataloggers with their associated power supplies and hardware from Campbell Scientific, Inc. (CSI) of Logan, Utah. In early February, I attended a mandatory CSI datalogging training session in Logan, Utah where we were taught the basic programming necessary to operate the CR10X dataloggers. The dataloggers arrived in late February and were operational in limited testing capacity through April.

In May, two new CSI water temperature probes for sea surface temperature and sea bottom temperature were installed, as was communication between the dock and office

dataloggers and an EMP computer. This simple, functioning system allowed for the comparison of the existing sea surface temperature and sea bottom temperatures with the new CSI system. No significant difference was seen in the hourly and daily average water temperatures recorded by the two systems (<0.2 °C, $r^2 = 0.995$, $p = 0.000$) during May.

To date, air, sea surface and sea bottom temperatures, barometric pressure, precipitation, relative humidity, solar radiation, and wind speed and direction are being recorded at hourly and daily intervals by the CSI system. Salinity and tide height will be integrated into the system when new sensors arrive in the near future.