

NOAA National Marine Fisheries Service

ANNUAL PERFORMANCE PLAN

Recipient: North Carolina Department of Environmental Quality, Division of Marine Fisheries

Grant Award #: N23NMF4740200

Grant Title: North Carolina socioeconomic database construction for the management of current and future data

Principal Investigator: Jason Walsh

Grant Award Period: 09/01/2023 – 02/28/2025

Project Costs: Total: \$145,020

Expenditure for the Period: 09/01/2023 – 2/28/2025

Category	Approved Budget	Current Expenditure	Cumulative Expenditures	Balance
Personnel	\$141,981	\$28,902.04	\$144,671	\$-2,690
Travel	\$1,539	\$0	\$0	\$1,539
Equipment	\$1,500	\$0	\$0	\$1,500
Supplies	\$0	\$0	\$0	\$0
Other	\$0	\$0	\$349	\$-349
Total	\$145,020	\$28,902.04	\$145,020	\$0

Description of Work:

This grant funds one contractor that is responsible to build a consolidated socioeconomic database to be used by the North Carolina Division of Marine Fisheries (NCDMF) Fisheries Economics Program to organize existing data for easier analysis and standardize future data entry and storage, as well as facilitate transmissions of fishery-dependent socioeconomic data to the Atlantic Coastal Cooperative Statistics Program (ACCSP) Data Warehouse. The Fisheries Economics Program administers surveys to stakeholders to monitor species-specific and broad fishery performance to achieve the goals of the Division. The data collected through these surveys are considered sensitive and confidential information about fishermen and dealers in North Carolina but are currently stored on a NCDMF network drive that is open to every employee within the License and Statistics Section. These data are collected and stored in Microsoft Excel or Microsoft Access formats in organized folders with corresponding metadata in Microsoft Excel or Microsoft Word documents according to standard operating procedures written by the Fisheries Economics Program. Given the diversity and structure of datasets there has not been a centralized location for data to be stored. This leads to data being disorganized,

difficult to work with and challenging to identify trends which are pertinent to the goal of identifying fishery economic performance and participation over time. Consolidation of these data into a database will also allow for increased protection and organization to ensure data are handled appropriately.

Project Status/ Work Accomplished:

NCDMF staff have worked with NCDIT staff on a requirements document to detail specific needs and expectations of the new data structure and corresponding input/output (I/O) interface. This document will be fluid and will be updated as decisions are made. The PI and NCDIT staff have hired a contractor and met with the contractor to outline needs and have provided data structure outlines and expectations.

Data for an ocean commercial fishing survey was chosen as a pilot for getting the data into a relational database format. A data mapping spreadsheet was created to do the translation, and an SQL database has been created. All data from the survey have been translated into this format and have been migrated into the database. Reference tables have been created and are in the database to translate values in the survey response tables. A dynamic web-based user interface to interact with the data continues to be developed that grants the user the ability to enter a new survey type and new survey questions and sub questions. Sub questions can be reordered, as needed within the edit survey question page. A view of the survey template has been developed that displays the fields on the screen as they would look in a printed survey. This allows the economist to design the survey and print it from the interface to be sent out to survey participants via mail. Different display types within the interface have been developed to show a different visual representation of each survey question based on what display type is chosen.

For the pilot commercial survey, functionality to view previous records in the survey template format has been completed. All previous survey records can also be viewed in a grid on the survey page. This grid can be filtered to Editing and entering new records received from respondents as well as the ability to build a new survey by selecting questions and ordering them within the interface will be the focus of the approved FY2025 ACCSP maintenance grant.

The database development process has identified many differences in variables across fishing sectors (e.g., commercial, recreational, for-hire). The developer is continuing to go through an iterative process of development and feedback with NCDIT and the PI to ensure the database serves the needs of the socioeconomic program across sectors.

NCDIT at NCDMF has been using the Agile SCRUM methodology for software development over the last 8-10 years. Development of the database and interface referenced in this update has been conducted using Agile development and 3-week development sprints. User stories to define “bite-sized” pieces of functionality from the requirements document continue to be created to guide the development process and describe how the new system should function. The DMF economist has met with NCDIT several times to review functionality developed so far. Testing of this functionality is ongoing and will continue into FY2025.

Additionally, the process of incorporating another survey from a non-commercial sector into the interface will be initiated to test the system's flexibility to easily incorporate new survey types.

Deviations:

The money wasn't available to DMF to start the hiring process until mid-September. A contractor was interviewed and hired to start on December 1st. Just before starting that contractor decided to stay with their previous employer, so we had additional delays getting a contractor on the project. The start date of the contractor was delayed until the end of January 2024. Approval for a no-cost extension was received in August 2024 and ran through February 2025. The FY2025 grant will pick up where this grant ended to continue to work on completing objectives.