

Greater Atlantic Regional Fisheries
Office and Northeast Fisheries
Science Center

Electronic Technologies Progress
Report

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Fisheries Dependent Data Visioning Project

The Greater Atlantic Regional Fisheries Office (GARFO) and the Northeast Fisheries Science Center (NEFSC) continue work on the Fisheries Dependent Data Visioning (FDDV) project which is the development of a future-state data collection program that ensures more accurate and timely data collections while preserving decades of archived data. We have completed work on the process analysis, produced a requirements overview, a high-level design overview, and a high-level implementation plan that will enable us to begin the architectural design of the future-state system. As we move into the next phase of the project, we continue to explore ways to track vessel landings through the use of a unique trip identifier that is automated and integrated throughout all of our data collection programs. Linking each of the data collection programs is the means that will enable us to produce a more accurate and comprehensive data set representing all the data collected from individual fishing trips. A critical task of in the next phase of the project is in the development of the business rules that will detail how the unique trip identifier will be incorporated into the various data collection programs. Under our current schedule, we anticipate programming of specific components of the new system will commence this winter. Potentially, implementation of new program components will be contingent on regulatory changes.

As the FDDV project has progressed, the structure and composition of the project teams has evolved. In order to meet the current demands of the project, we are in the process of restructuring FDDV governance by updating and revising the project's organizational structure and are developing a FDDV Operational Agreement which will clearly define organizational roles and decision making processes.

In addition to the internal work associated with the FDDV, work has begun with the Atlantic Coastal Cooperative Statistics Program (ACCSP) to harmonize our modernization efforts with ACCSP modernization efforts. ACCSP has begun work to modernize their data collection programs as well as to redesign the SAFIS warehouse which will house the majority of the Northeast's data collection programs. As part of that effort, we have begun laying the groundwork to prepare for the relocation of the GARFO vessel trip report (VTR) database to the ACCSP SAFIS warehouse.

Electronic Reporting

Electronic vessel trip reports (eVTR) has been an approved method of vessel trip report submission in the Northeast since 2011. It remains to a voluntary program that has resulted in limited industry acceptance and use. There are varied reasons for the slow adoption including resistance to software applications being installed on vessel computers, distrust of technology, and general uneasiness. Development and expansion of eVTR continues to be a priority in the Region with efforts underway to encourage expansion and support the wide-scale adoption. Recently, the Mid-Atlantic Fisheries Management Council took action to develop an omnibus Framework to require electronic submission of VTRs by the for-hire sector; this is likely to be implemented January 1, 2018. We will encourage the Councils to consider expanding mandatory eVTR requirements when it is appropriate to management objectives. A critical component to the FDDV project is the creation and use of a unique trip identifier

which requires the use of eVTR. It is also an integral component of an Electronic Monitoring (EM) program and as EM continues to evolve, so too will the adoption of eVTR. Work continues in the development and the planning of continued phased eVTR implementation.

Electronic Monitoring

GARFO and NEFSC continue work in the development of EM programs in the groundfish and herring/mackerel midwater trawl fisheries. These are the fisheries that have been identified as candidates for an EM program as an alternative to other types of monitoring programs and as a means to meet monitoring needs or increase monitoring coverage. There are currently two distinct EM projects in the groundfish fishery, each exploring different types of programs and one project in the Atlantic herring and Atlantic mackerel midwater trawl fisheries.

Groundfish EM Projects

The first groundfish program has been ongoing since 2014 and is a collaboration between the agency, The Nature Conservancy (TNC), the Gulf of Maine Research Institute (GMRI), and several groundfish sectors to develop a groundfish EM program that would use EM as an alternative to the At-Sea Monitoring (ASM) program required by Amendment 16 to the groundfish fishery management plan. Early on, the EM program was designed to use data from EM video to verify and validate the reporting accuracy of discards on electronic vessel trip reports (eVTRs) (i.e. the audit model). In the months leading up to May 2016, interest in the EM audit model waned and resulted in a significant reduction of industry participants. In order to ensure some level of EM participation in 2016, our project partners requested a shift in concept to an EM program in which participating vessels would fish under an Experimental Fishing Permit (EFP). Under the EFP, participating vessels use EM instead of ASM on trips that are selected for ASM coverage. The video from those trips is reviewed in its entirety and used to identify and enumerate discards of groundfish species. In the current fishing year, a relatively low observer coverage target of 14%, and the availability of NOAA Fisheries funds to cover 85% of ASM costs, has resulted in just 5-6 vessels participating in the EM program with less than 20 trips utilizing EM. In the absence of mandatory EM requirements, we continue to encounter modest participation and ambivalence towards EM within the groundfish community. Communication and collaboration continues with our project partners to discuss how to expand participation and to adjust the 2017 EFP.

The second groundfish program is new to 2016 and is a collaboration with the Environment Defense Fund (EDF) and GMRI funded in part through the National Fish and Wildlife Foundation (NFWF). This project is anticipated to have 4-6 vessel participants in a full retention fishery. Planning is underway and it is expected they will apply for an EFP this fall and would commence fishing under the EM program on May 1, 2017.

Herring and Mackerel EM Project

The New England and Mid-Atlantic Councils have been interested in increasing monitoring in the Atlantic herring and Atlantic mackerel fisheries for the past several years. To address the Councils' desire to increase monitoring in its fisheries, GARFO and the NEFSC are working with the Councils to develop the Industry-Funded Monitoring (IFM) Omnibus Amendment to allow for industry-funded monitoring in all New England and Mid-Atlantic fisheries.

A particular interest in the IFM Amendment is increasing monitoring for the herring and mackerel midwater trawl fisheries to help track the catch of target species against annual catch limits and incidental catch against fishery catch caps. Another monitoring interest is tracking slippage (i.e., catch discarded before it is brought aboard the vessel) in the midwater trawl fisheries. While the Councils are considering options for at-sea observers and monitors in the IFM Amendment, sampling catch at sea may not be the most cost effective way to increase monitoring in fisheries that retain and land the majority of their catch, like the herring and mackerel midwater trawl fisheries. For these reasons, stakeholders, including the commercial fishing industry and environmental advocates, support developing an efficient and cost effective EM and portside sampling program for the midwater trawl fisheries in the IFM Amendment.

In 2016 and 2017, GARFO and NEFSC, in cooperation with Saltwater Inc., are evaluating the utility of EM aboard midwater trawl vessels participating in the herring and mackerel fisheries. The purpose of the program is to:

- Analyze the utility of EM in monitoring fisheries as a means of informing future EM programs;
- Deploy and test an EM program in an operational setting, allowing analysis and adjustment of EM program requirements;
- Evaluate the range of information that can be gathered with EM systems, such as documenting slippage events, categorizing the types of slippage events, verifying other discard sources, and determining if EM can help estimate the amount of catch retained (if not all catch is retained); and
- Refine EM cost estimates for NMFS and the fishing industry.

This project was funded by NMFS and is designed to include 12 midwater trawl vessels. To date, EM systems have been installed on 6 vessels. The remaining 6 vessels will have EM systems installed as quickly as time allows. These 12 vessels comprise almost the entire midwater trawl fleet.

Video footage will be recorded throughout the duration of a trip, beginning when the gear is first deployed until the vessel returns to port. All the video footage will be reviewed. Preliminary EM data are being used to adjust camera placement (i.e., location and position) to ensure all necessary data are collected. As more data become available, GARFO and NEFSC staff will begin evaluating the utility of EM in the herring and mackerel midwater trawl fisheries.