

Biannual Progress Review of Implementation of NOAA Fisheries Electronic Technologies Policy

Metrics to Report:

- The number of FMPs with defined fishery-dependent data collection monitoring goals.
- The number of FMPs reviewed to identify fisheries where the adoption of additional electronic technologies would be appropriate for achieving data needs.
- For fisheries where additional electronic technologies are identified as appropriate, the number of FMPs with electronic technologies incorporated into fishery-dependent data collection programs.

Office of Sustainable Fisheries Highly Migratory Species Management Division – April 25, 2017

The 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) includes management measures for Atlantic bluefin, bigeye, albacore, yellowfin, and skipjack tunas; Atlantic swordfish; Atlantic blue and white marlin, sailfish, and roundscale and longbill spearfish; and oceanic sharks that are managed by the Secretary of Commerce per the Magnuson-Stevens Fishery Conservation and Management Act.

- The number of FMPs with defined fishery-dependent data collection monitoring goals:
 - One (100%); the 2006 Consolidated HMS FMP contains defined fishery-dependent data collection goals, including self-reporting, on-board observer, electronic reporting, and electronic monitoring programs.
- The number of FMPs reviewed to identify fisheries where the adoption of additional electronic technologies would be appropriate for achieving data needs:
 - One (100%); the 2006 Consolidated HMS FMP was reviewed and the pelagic longline fishery was identified for electronic monitoring and the bluefin tuna purse seine and commercial handgear fisheries were identified for electronic reporting in 2015, in addition to existing electronic monitoring in the pelagic longline and shark bottom longline fisheries and electronic reporting in the HMS recreational fishery and commercial dealer reporting. Electronic reporting, pending additional resources, was identified as appropriate for the pelagic longline fishery (electronic logbooks), HMS charter/headboat fisheries (electronic logbooks); and online HMS tournament registration and reporting.
- For fisheries where additional electronic technologies are identified as appropriate, the number of FMPs with electronic technologies incorporated into fishery-dependent data collection programs
 - One (100%); the 2006 Consolidated HMS FMP contains fishery-dependent data collection and management measures for the pelagic longline, bluefin tuna commercial, HMS recreational, and HMS charter/headboat fisheries for which additional electronic technologies were identified as appropriate, pending additional resources. Dealers purchasing all HMS must report electronically.
- Progress at the fishery level, i.e. the appropriate unit within a FMP that better reflects the application of electronic technologies:
 - Prior to 2015:
 - The Atlantic pelagic longline and bottom longline fisheries were monitored electronically via vessel monitoring systems (VMS).
 - The HMS Angling and Charter/Headboat vessels were required to report all non-tournament landings of bluefin tuna, swordfish, blue and white marlin, and roundscale spearfish electronically via a web-based system as well as an app.
 - All HMS dealers were required to report all purchases of HMS (except for bluefin tuna) via the electronic dealer reporting system (eDealer).
 - HMS Angling and Charter/Headboat vessels were able to report live releases of shortfin mako sharks via an app.

- Objectives for 2015-2017:
 - Effective January 1, 2015, Amendment 7 to the 2006 Consolidated HMS FMP implemented a variety of new electronic technologies, including electronic reporting of daily catches of bluefin tuna in the pelagic longline and purse seine fisheries via VMS units, electronic reporting of bluefin tuna catches in the pelagic longline and purse seine fisheries via the web-based Individual Bluefin Quota system, electronic reporting for bluefin tuna catches for the General, Harpoon, and Charter/Headboat fisheries via a web-based/app reporting system, and effective June 1, 2015, electronic monitoring in the pelagic longline fishery.
 - HMS Management Division staff worked cooperatively with the Northeast Fisheries Science Center and the Atlantic States Marine Fisheries Commission to develop an electronic reporting portal for bluefin tuna dealers, which was implemented in July 2016.
 - The HMS Management Division continues to work with the Southeast Fisheries Science Center in the development of electronic logbooks for fishermen using various commercial gear types including handline, bandit reel, and longline. The results of field testing of several types of electronic logbooks in a pilot program, which ended in February 2016, were generally positive. The Southeast Fisheries Science Center is currently working towards implementing a voluntary electronic logbook reporting program for all commercial vessels. As part of this process, the Science Center is finalizing the variables needed in the system and is working with the Atlantic Coastal Cooperative Statistics Program to finalize the infrastructure changes needed in order to allow for voluntary electronic reporting by all HMS commercial fishermen. The goal is to have the voluntary program fully developed and operable in mid to late 2017.
 - HMS Management Division staff are participating in the plan development team for electronic logbooks for Charter/Headboat vessels with South Atlantic and Gulf of Mexico Fishery Management Councils. Currently, reporting forms are in development.
 - The HMS Management Division contracted development of a recreational catch reporting app to complement the existing web-based catch reporting of all non-tournament landings of bluefin tuna, swordfish, blue and white marlin, and roundscale spearfish. The Google iPhone app was completed in summer 2016 and the Android app was completed in spring 2017.
 - HMS Management Division staff are working cooperatively with the Southeast Fisheries Science Center to beta test an online HMS tournament registration portal with the next steps of developing an online HMS tournament reporting system.
 - The HMS Management Division staff worked with National Seafood Inspection Laboratory and Office of International Affairs/Seafood Inspection staff to implement electronic reporting of bluefin tuna through the International Commission on the Conservation of Atlantic Tunas (ICCAT) electronic Bluefin Tuna Catch document program, which was effective May 1, 2016.

- Information on why other FMPs or fisheries are not being considered for the incorporation of electronic technologies:
 - By gear type, the following species/fisheries are not currently being considered for electronic technologies with a brief explanation:
 - Bluefin tuna –Trap category – this is a limited fishery with incidental catches of bluefin tuna on an infrequent basis. As this fishery is not primarily managed by the HMS Management Division, no reporting changes are being considered for bluefin tuna caught in traps.
 - Recreational handgear – currently, recreational catches of sharks and BAYS tunas are estimated via surveys (e.g., MRIP, Large Pelagics Survey, Texas Headboat). As recreational catch apps for other HMS are developed in the near-

term, requiring recreational reporting of sharks and BAYS tunas may be revisited.

Table 1. EM Program Cost Template for reporting program costs and cost share. Include FTE and contractor costs.¹

Camera-based Electronic Monitoring	Total Cost	% Government cost share?	% Industry cost share?	NMFS budget line (e.g., FRM, catch shares, NOP, etc)
Planning (technical system design, vessel monitoring plans, support system design)				
Specifications setting				
Technical software system design QA/QC, metadata, integration	\$189,000 (One Time)	100%		
Commercial off- the shelf/3 rd party developer option				
Regulation development and implementation				
Hardware	\$61,140 (five new systems)	100%		
Camera(s)				
Sensors				
Media/storage				
Government IT infrastructure (data center hardware, utility and AWS costs)	\$68,000	100%		
Software, database dev., software licenses	\$7,280	100%		
Field Support	\$310,740	100%		
Installation				
---Labor				
---Wiring, connections, etc				
Training (labor, materials, travel)	\$47,800	100%		
Maintenance/Repair/Replacement	\$36,000	100%		
Help Desk				
Data Communications & Reporting	\$55,380	100%		
At sea				
Shoreside				
Government IT infrastructure				
Data Retrieval	\$45,000	100%		
Data Validation	\$45,000	100%		
Data Analysis				
Software				
---development				
---license				
Labor	\$132,000	100%		
System maintenance	\$212,000	100%		
Data Storage/Archiving				

¹ Provide reference for the program, including brief description and a citation to the implementing rule

On board				
On shore	\$142,000	100%		
Government IT infrastructure				
Other (specify)				
FTE Program support	\$30,000	100%		