



Atlantic States Marine Fisheries Commission

1050 N. Highland Street • Suite 200A-N • Arlington, VA 22201
703.842.0740 • 703.842.0741 (fax) • www.asafc.org

Dr. Louis B. Daniel, III, (NC), Chair

Douglas E. Grout (NH), Vice-Chair

Robert E. Beal, Executive Director

Vision: Sustainably Managing Atlantic Coastal Fisheries

TESTIMONY OF

Robert Beal, Executive Director, Atlantic States Marine Fisheries Commission

**Before the U.S. Senate Committee on Commerce, Science, and Transportation
Subcommittee on Oceans, Atmosphere, Fisheries, and Coast Guard**

“Improvements and Innovations in Fishery Management and Data Collection”

May 20, 2015

Chairman Rubio and Members of the Subcommittee,

I am Robert Beal, Executive Director of the Atlantic States Marine Fisheries Commission (Commission). The Commission is a management entity comprised of the 15 Atlantic coast states, five of which are represented on this Subcommittee. The Commission provides a forum for interstate cooperation on marine fisheries that cross state borders and thus cannot be adequately managed by a single state. Congress authorized the Commission in 1942, and granted us management authority over Atlantic striped bass in 1984 with the Atlantic Striped Bass Conservation Act. Congress then expanded our management authority to include all Commission fishery management plans with the Atlantic Coastal Fisheries Cooperative Management Act (Atlantic Coastal Act) in 1993.

I commend the Chairman and the Subcommittee for recognizing the importance of robust data in fisheries management. Data, both fishery-dependent (catch and effort) and fishery-independent (collected through scientific surveys), provide the basis for marine fisheries management in the United States. Over the past two years alone, the Commission has conducted nine benchmark stock assessments that provide population estimates that will be the basis for management of these species for years to come. The black drum assessment, which was the first coastwide assessment for this species, enabled us to move from an unknown stock condition to one that was found to be not overfished nor experiencing overfishing. Data for this assessment included commercial landings extending all the way back to the early 1900s. Due to the availability of robust data at the regional scale, the tautog benchmark assessment shifted from a coastwide assessment to a regionally based assessment of this locally-resident species, providing a more accurate reflection of regional differences in life history characteristics and harvest patterns, as well as reducing the risk of overfishing. Lastly, improved data and assessment capabilities yielded a much improved and more credible Atlantic menhaden assessment, establishing the foundation for the Commission to move forward with the development of ecologically-based reference points to manage the menhaden resource. These are just three recent examples of what can be achieved when we have access to timely and accurate fisheries data. With another 23

species that fall under the Commission's purview, the ultimate success of these programs, in terms of sustainable management and stakeholder confidence, lies in the accuracy, reliability, and timeliness of the data we use to inform our stock assessments and decision making. Without quality and timely data, we cannot successfully manage America's fisheries.

Given that Atlantic coastal fishery resources generate billions of dollars of economic activity and hundreds of thousands of jobs in our coastal communities, as well as food and recreation, it is essential for resource managers to seek innovative methods and approaches collect and utilize fisheries data.

Evolving Management, Increasing Data Demands

Stock assessments today are growing increasingly complex as managers grapple with the fact that fishing pressure is only one part of the story. Stock distribution shifts due to changing water temperatures, habitat degradation, and hypoxia need to be considered. Further, we are just beginning to understand how the rise or fall of one stock can impact other stocks or ecosystems at the regional scale. Until recently, management measures that account for other factors outside fishing pressure were simply not possible.

On the East Coast, the Commission has been at the forefront of developing innovative approaches to assess and manage fishery resources. Our Atlantic Menhaden Board is in the process of developing ecological reference points that balance menhaden's role as a forage species with its use by reduction fisheries and bait harvesters. The Commission's horseshoe crab management program is the first to incorporate ecosystem principles, such as shorebird and horseshoe crab abundance levels, to set annual harvest levels for horseshoe crabs of Delaware Bay origin. Red knots, the shorebird that most relies on horseshoe crab eggs for food, was listed as threatened under the Endangered Species Act in 2014. The Commission's management program, which uses Adaptive Resource Management (ARM) to set annual specifications, was cited as one of the main reasons red knot was not listed as endangered. Unfortunately, the ARM Framework's utility is currently threatened due to funding shortfalls that have curtailed the conduct of the Horseshoe Crab Trawl Survey in 2013 and 2014. Data derived from the Survey are a critical component of the ARM Framework as it is the only long-term source of adult abundance indices. Both are excellent examples of how the Commission and the states can adaptively respond to stakeholder demands to address predator/prey interactions and ecological services. Neither effort, however, can be accomplished without robust data. As funding to critical data sets diminishes, so too does our ability to respond innovatively to increasing management challenges.

Current Data Collection Programs and the Role of New Technologies in Improving the Management Process

With regards to how new technologies can help fishery managers achieve better and more timely information, the Commission, along with the Atlantic Coastal Cooperative Statistics Program (ACCSP), is working hard to make data collection and management more nimble, creative, and efficient.

Atlantic Coastal Cooperative Statistics Program

ACCSP is a cooperative state-federal marine fisheries statistics data collection program that integrates data from multiple state/federal sources into a single data management system to meet the needs of fishery managers, scientists, and the fishing industry. ACCSP was established to be the principal source of fishery-dependent information on the Atlantic coast. ACCSP provides data for a number of fisheries management purposes. These include: fishery management plans, dealer reporting compliance; quota and compliance monitoring; stock assessments; landings history and trends (e.g., track past commercial catch levels by state, revenue data by vessel); fishery characterizations; catch-per-unit-effort indices; and fishery participant information. ACCSP is housed within the Commission but functions separately. The Commission is a founding partner of the ACCSP, and provides administrative and logistical support services to ACCSP.

In 2003, ACCSP created the Standard Atlantic Fisheries Information System (SAFIS), an online electronic reporting system designed to meet the increasing need for real-time commercial landings data. In 2004, NOAA Fisheries Northeast Region (now the Greater Atlantic Regional Fisheries Office or GARFO), adopted SAFIS for federally permitted seafood dealers, encompassing dealers from Maine to North Carolina. Over time, the use of SAFIS has expanded throughout the Northeast (implemented from Maine to Connecticut), the Mid-Atlantic (New York, New Jersey, and Delaware) and South Atlantic (South Carolina and Georgia) to become the de-facto dealer reporting system. Also, as part of the ongoing NOAA Fisheries Data Visioning projects, there is a renewed commitment to improve the linkages between federal data collection efforts and ACCSP.

SAFIS can be deployed to its partners at no direct cost. It is estimated that SAFIS results in as much as \$10 million in cost avoidance for our member states for data management and software development, and up to \$3 million in annual ongoing maintenance. To date, SAFIS includes over seven million records available for managers for quota monitoring and compliance. At the end of February 2015, this included approximately 5.6 million dealer reports, 1.3 million trip records, and over 10,000 volunteer angler records.

Where electronic reporting has been comprehensively deployed, much of the need for more timely and accurate data in dealer and fisherman reporting has been resolved. Agencies that are using the system are better able to manage quotas and perform compliance monitoring. Improved data on the activities of individual license holders will make the creation and management of limited entry fisheries, when desired by the states, much more timely and accurate. The standardization of coding has greatly reduced the amount of time needed to create the consolidated data sets that are needed for larger scale management and assessment activities.

However, many agencies are still using a mixture of conventional (paper) reporting and electronic reporting, significantly limiting the ability to provide accurate, real-time data for management purposes since paper reports can take several months or longer to receive and process. While they are in process, it's necessary for managers to estimate catch that is reported on paper. This can lead to errors that can negatively impact fisheries and the fishing industry.

In 2010, ACCSP launched a completely revised version of SAFIS to address user needs for a faster, more flexible application. Some of the major enhancements and associated benefits include:

- Up-to-date information on species caught and their impact on fisheries and quotas
- Confidential access to data-of-record by harvesters and dealers
- Access to state and federal reporting requirements through online data entry that eliminates duplicative reporting to state and federal agencies and prevents double counting.
- Integrated highly migratory species reporting
- Automatically generated pricing information
- Flexibility in creating favorites (e.g., species, gears, fishermen, dealers, and disposition)
- Management tools to facilitate maintenance of partner-owned data such as participants, online permits, and vessels.

These benefits are further confirmed by ACCSP's program partners:

“Without ACCSP, MA DMF would be hard-pressed to collect comprehensive, trip-level data in the manner that it does. This information is used in multiple ways to characterize the fisheries that occur in Massachusetts, and is a critical piece in the management process. Previously, information was collected only about specific fisheries, and it wasn't always done in a standardized way. Now the information is comprehensive, standardized, and it is also available to all other program partners as well.”

– *Tom Hoopes, Chair of the ACCSP Operations Committee and Program Leader for the Management Information Systems and Fisheries Statistics Program of MA DMF*

“ACCSP has created applications that allow state and federal partners to feed fisheries-dependent data into a single repository with all data being held to the same standards. Additionally, all data housed by ACCSP is subject to quality assurance and quality control protocols. These features allow managers to query fishery-dependent data on a coast-wide basis and provide a certain level of confidence in the data being used which is essential for coastwide and regional stock assessments.”

– *Nicole Lengyel, Chair of the ACCSP Biological Review Panel and the Bycatch Prioritization Committee and Principal Biologist with RI DFW*

Initially developed as a dealer reporting system, SAFIS has grown to include five distinct applications to gather commercial and recreational information. These five applications (eDR, e-1 Ticket, eTRIPS, eLogbook, and SMS) function independently, but all are maintained within the same database and share standards and codes that are ACCSP-compliant. Below is a

description of each of the SAFIS applications, as well as the partners that are implementing the application as of February 2015.

1. Electronic Dealer Reporting (eDR)

The electronic dealer reporting application was the first application developed and implemented. eDR is a web based application that allows dealers to enter an electronic dealer report. Fields that must be entered for a completed report include harvester, port, date landed, time landed, date purchased, vessel number, species, disposition, gear, quantity, and price. When reports are completed electronically an interactive report can be made to view progress and history of landings. It was first launched by GARFO for federal fisheries. This application is also employed by Maine, New Hampshire, Massachusetts, Rhode Island (the first state to implement eDR), Connecticut, New York, Delaware, and New Jersey.

2. Single Trip Ticket Reporting (e-1Ticket)

e-1Ticket is a web-based application providing the ability to collect all of the same data collected through a 2-ticket system (eDR), however the harvester and dealer report data on a single form and simultaneously create a dealer report. e-1Ticket combines elements of both trip (vessel and/or harvester) and dealer reporting into a single application that emulates the standard practice in the southeast. South Carolina, Georgia, and NMFS – SE are currently employing the e-1Ticket application.

3. Electronic Trip Reporting (eTRIPS)

eTRIPS is a web-based application that compiles catch and effort data from harvesters. Trip reports, or logbooks in some fisheries, provide catch and effort data from a permitted fishing entity (harvester or a business) or a single vessel. Trips may be categorized as commercial or for-hire (party/charter).

This application allows harvesters to create trip reports after entering in the required fields in the trip, effort, and catch categories. Similar to the eDR application, interactive reports can be made to illustrate progress and history of catch and effort. eTRIPS was developed to meet the complex needs of collecting catch and effort data from harvesters. This application is now employed by Massachusetts, Rhode Island, Connecticut, New York, and New Jersey.

In 2014, ACCSP developed a mobile version of eTrips which is run on tablet computers which is currently used in Rhode Island. This handheld application greatly reduces the reporting burden on harvesters, improves data accuracy, and results in timelier reporting.

“From a stock assessment point of view, DFW is optimistic that the discard data generated from the new mobile application would fill a gap for party and charter boat discard data which is currently not collected. And lastly, captains would like more efficiency in data reporting and the ability to report online as opposed to paper. Most of the party and charter boat captains in Rhode Island have federal vessel trip requirements. Everyone sees the mobile application as a good first step to allowing them to report that data online, meet federal requirements, as well as giving DFW more timely access to the data. Overall, better data, better decisions.”

– John Lake, Principal Biologist with the Rhode Island Division of Fish and Wildlife Marine Fisheries

4. Voluntary Recreational Logbooks (eLogbook)

eLogbook was first developed as a part of the Striped Bass Bonus Program in New Jersey. This application is a powerful way to empower anglers in the data collection process. eLogbook formulates summaries of information on all species caught by the angler. This application is now employed by Massachusetts, Rhode Island, New York, Connecticut, and Delaware.

5. SAFIS Management System (SMS)

SMS is a web-based application providing administrative tools to SAFIS administrators for management of information such as user accounts, participants, or permits. It is often used to monitor quotas.

How Are the Data Used?

SAFIS data are used to support fisheries stock assessments and management activities. Since 1995, ACCSP has contributed data to over 30 stock assessments along the Atlantic coast. During 2014, the Data Team provided landings and biological data for use in a number of benchmark stock assessments, including American lobster, black drum, red drum, red snapper and gray triggerfish, and South Atlantic shrimp stocks.

ACCSP data have also been used to:

- Compile commercial landings data for NOAA Fisheries annual publication of *Fisheries of the United States*.
- Supply annual summaries of Eastern oyster landings for Maryland for 2010-2013 for use by the Louisiana Legislative Auditor
- Respond to media inquiries on the number of active harvesters and the average age of the harvesters; determining the socioeconomic impacts of various management and industry regulations; and Chesapeake Bay-specific commercial landings for use in the film “Life on the Edge: America’s Atlantic Coast.”
- Provide aggregated trip data by geographic zone to the Bureau of Ocean Energy Management to inform discussions on the potential siting impacts of wind energy farm projects off the Atlantic coast.
- Compile market values of Atlantic striped bass for Maryland, Virginia, and North Carolina for an Environmental Defense Fund report.

Positive Reviews from Industry on Electronic Reporting

In the fall of 2012, ACCSP brought together harvesters, dealers, and fisheries managers to better understand the potential pros and cons of electronic reporting. Electronic reporting by harvesters and dealers clearly has its advantages. Fisheries managers have access to more timely data, allowing them to better monitor catch and more closely manage quotas. Scientists benefit from more detailed and precise data. Lastly, law enforcement officers can more easily track regulatory compliance.

The first initiative of the ACCSP-convened group was to design a survey, which was distributed from December 1, 2012 to July 14, 2013, to collect attitudes and opinions on electronic reporting systems through the eyes of industry.

"Fishermen and data managers both appear to have strong opinions on electronic reporting programs, so this project was begun to describe those opinions and better understand their basis."

-- *John Carmichael, Project Lead and Science and Statistics Program Manager for the SAFMC*

Overall, the survey illustrated there are significant benefits to harvesters and dealers no matter how they report electronically. The survey question with the most compelling set of responses was: "If you have experience with electronic reporting, please share with us the key advantages." After reviewing nearly 2,000 responses, it became evident industry members too thought there were huge advantages to electronic reporting, including:

- **Reduces stress** by eliminating the need to search for old paper reports. Data are easily accessible and readily organized to quickly print out landings records for the purpose of business planning and tax preparation.
- **Increases confidence in reporting.** Once a fishing report has been entered, users immediately receive a confirmation of submitted information to verify data input and keep for their records.
- **Ensures reliability** by flagging conspicuous errors before report submission, allowing users (harvesters and dealers) to correct them.
- **Provides a measure of security** since inputted data are stored on external servers in the event an inputter's personal computer crashes. As one respondent said, "It's a great feeling knowing my data are backed up in a database."
- **Allows for quick data entry.** Data are saved in the system so that when you go back in to enter new report information, you don't have to reenter basic information. As one respondent said, "All of my information is already saved into my favorites. All I do is enter the date, species, pounds, and hit save and I am done!" Also, each state and federal system is designed to gather the information that is relevant to your area, so there is no unnecessary data entry.
- **Provides convenience** since it can be done anywhere (from home or while in the field). As one respondent said, "I report at the end of each day so there is no need to scramble to get a paper report done all at once. Doing an 'all-at-once' paper report requires gathering all the slips from the week, which can be quite insane." SAFIS is the only web-based electronic reporting system that is available from any computer and can be used without downloading additional software.
- **Improves efficiency and is economical**, freeing up time for harvesters and dealers to conduct their businesses.

Improving the Marine Recreational Information Program

Another important tool to better understand fisheries and their use by recreational anglers is NOAA Fisheries' Marine Recreational Information Program (MRIP). Recognizing the need for better recreational effort data, NOAA Fisheries commissioned an independent review of its

recreational fishing survey in 2006 through the National Research Council (NRC). One year later, Congress required NOAA to implement the study's recommendations, including the creation of a national saltwater angler registry. While the resulting Marine Recreational Information Program (MRIP) was a vast improvement over previous estimates, there is still work to do to further improve the program and the data it provides. Two recent developments have the potential to significantly improve the accuracy of, and stakeholder confidence in, recreational fishing effort and landings estimates. The first development involves transitioning conduct of the catch estimate portion of MRIP known as the Access Point Angler Intercept Survey (APAIS) to all of the Atlantic states.

APAIS is one of the most crucial components of estimating recreational catch and discards. It requires person to person interaction on docks and other fishing sites to identify catch and effort of recreational anglers. The Atlantic coast remains the only area in the continental U.S. where the APAIS angler interviews are still conducted by MRIP's contractors. Shifting APAIS to the states in the Gulf of Mexico has resulted in substantial improvements in data quality, a better sense of involvement by the participating states, and more confidence in the results by the interviewed anglers.

Beginning in 2016, all coastal states from Maine through Georgia will transition to conducting APAIS to collect information on marine recreational fishing catch and effort data in their own waters. Over the past decade several states (e.g., Maine, New Hampshire, Massachusetts, North Carolina, South Carolina and Georgia) have successfully improved data quality, and stakeholder confidence in that data, through greater state involvement with APAIS contractors.

Based on these successes, the states, through ACCSP and the Commission, approved a plan to transition to state conduct of APAIS in 2016. The plan details the transition from the current NOAA Fisheries contractor to ASMFC/ACCSP and state conduct of the APAIS. Under this plan, NOAA Fisheries will retain primary accountability for APAIS and will be responsible for survey design, catch and effort estimation, and public dissemination. The Commission and ACCSP will act as the central coordinators of the state-conducted APAIS and will be responsible for data entry, compilation, quality control/quality assurance, as well as formatting and delivering intercept data to NOAA Fisheries. States will oversee and manage field collection, which will be conducted by state or Commission employees in accordance with APAIS standard data collection protocols.

NOAA Fisheries is also transitioning parts of the effort survey it administers from a landline phone survey to mail survey. In the past, MRIP has estimated effort through the Coastal Household Telephone Survey (CHTS), which randomly targets households with landlines in coastal counties. As you can imagine, this methodology has a number of shortcomings, including declining response rates to household telephone surveys generally and the increasing proportion of households that only use cell phones. Recently completed pilot studies indicate mail surveys are a much better tool for capturing recreational fishing effort by increasing response rates, reaching a broader population of anglers, and improving response accuracy. The pilot studies also found the new survey resulted in considerably higher estimates of fishing effort, which in turn will result in correspondingly higher estimates of catch. What this means is that once the new survey is ready for implementation, which will take two to three years in order to align the new estimates with the historical data series, there could be significant stock assessment and management implications. In order to develop the most appropriate way to transition from historical to improved survey designs, NOAA Fisheries has

formed a Transition Team, composed of representatives from the Regional Councils, Interstate Commissions, and state partners, to design an implementation plan for the new mail survey.

In order to assess MRIP's progress in addressing the NRC's 2006 recommendations, the MRIP Executive Steering Committee, of which the Executive Directors of the three Interstate Commissions are members, is pleased that a new NRC review is scheduled to be conducted next year. It is my hope the review will find MRIP's accomplishments, including changes to APAIS administration and the effort survey, are vast improvements from its predecessor, the Marine Recreational Fisheries Statistics Survey. While these improvements have been a long time in coming, they represent time well spent in ensuring recreational fishing and effort estimates are accurate and best meet the needs of fisheries scientists, managers, and the angling public.

In closing, timely and accurate fishery-dependent data, in conjunction with robust fishery-independent data, are essential to the success of marine fisheries management in the United States. The Commission, ACCSP, and our state and federal partners are committed to seeking innovative and cost-efficient approaches to address our data collection and management needs. We stand ready to assist you and the members of this subcommittee in any way we can to further our shared objective of effectively and sustainably managing Atlantic coast fishery resources.