



The NOAA FISHERIES NAVIGATOR

Testing Electronic Monitoring in the Herring and Mackerel Fisheries

NOAA Fisheries recently received a grant from our National Observer Program to test electronic monitoring systems on regional herring and mackerel mid-water trawlers. What is Electronic Monitoring? Electronic monitoring, or EM, consists of putting video cameras on boats to monitor fishing activities while vessels are at sea.

Electronic monitoring systems can vary from fleet to fleet in terms of how much of the activity it records, and what kind of information it is recording. The systems can be used to monitor anything from deployment and retrieval of gear, to the number and species captured, to the size of each fish brought on board. The goal of the herring and mackerel EM project is simple: to monitor

whether all of the catch is kept by the vessel.

How will this project be conducted? Grant funds will be used to install and operate EM on up to 12 vessels; collect and review data; conduct maintenance and adjustments on EM equipment; and prepare final reports. We will outfit each boat with enough cameras to monitor all fishing and discard activities that occur from the time the boat first drops the net into the water until they tie up to the dock at the end of the trip. Vessel owners will not have to pay for the equipment, installation, or monitoring costs. The project will last for about 16 months, including 12 months of monitoring at sea, and is slated to start in July.

The participation of fishermen in this project is critical! Their feedback will inform the successful development of EM in our regional fisheries. This work will also provide the implementation details needed if the New England and Mid-Atlantic Fishery Management Councils mandate EM as a requirement in the herring and mackerel fisheries. Additionally, verifying the retention of catch will allow us to use portside monitoring tools with more confidence when evaluating catch in these fisheries.

For more information about this project, contact Peter Christopher, Sustainable Fisheries Division, at (978) 281-9288 or email him at <Peter.Christopher@noaa.gov>.

Setting Aside Fishery Resources to Support Our Fisheries

What do 1.5 million pounds of Atlantic sea scallops, 1,000 monkfish days-at-sea, and 20 million pounds of Atlantic herring have in common? These are the amounts of fishery resources that were recently awarded through 18 grants under the Atlantic Sea Scallop, Monkfish, and Atlantic Herring Research Set-Aside (RSA) Programs.

Established by the New England and Mid-Atlantic Fishery Management Councils (Councils), the Councils reserve a portion of the allowable catch to support research on these species. The set-aside catch is awarded through a competitive grant process administered by NOAA Fisheries. Instead of giving money to support research like a typical grant program, we award specific amounts of fish and shellfish to successful applicants. During the next one to three years, scientists will partner with fishermen to harvest these awarded fish and scallops to generate funds to pay for the research.

RSA programs are an effective way to fund cooperative research to address fishery-specific science and management needs. For example, fine-scale scallop RSA surveys in the Mid-Atlantic and on Georges Bank regularly support decisions by the New England Council on how to manage the scallop fishery in certain areas. Monkfish RSA life history research helps identify and fill monkfish stock assessment data gaps. And an Atlantic herring RSA portside sampling project for midwater trawl vessels helps Atlantic herring fishermen avoid river herring. For a complete

list of funded projects, and to view final reports, use our project search tool at www.nefsc.noaa.gov/coopresearch.

Looking ahead, we expect to announce the 2017 scallop RSA request for proposals in mid-July. Proposals would be due in early September, 2016 and awards completed by March 1, 2017. We won't be holding monkfish and Atlantic herring RSA grant competitions this year because the recent competitions for these species awarded all of the available monkfish days-at-sea and herring quota to multi-year projects. We expect to hold the next monkfish RSA competition in 2017, and the next herring grant competition in 2018.

Making Set Aside Programs Work – It Takes a Village

NOAA Fisheries implements the RSA Programs and makes sure that the research is technically sound and aligns with the research priorities set by the Councils. Managing the programs requires the coordination of several of our policy and science offices, plus assistance from the Fishery Management Councils and fishing industry.

As the Cooperative Research Liaison for the Greater Atlantic Regional Fisheries Office, Ryan Silva coordinates RSA program implementation. Ryan helps with the proposal review and project selection process, tracks RSA-funded research and results, conducts outreach, and oversees harvest activities to make sure that RSA awards and catch limits are not exceeded.

Cheryl Corbett works in the NEFSC's Grant Office on the administration of the grants. Cheryl runs the grant solicitation and proposal review processes, and

makes sure that the RSA competitions meet all of the Federal grant program requirements. Cheryl also coordinates the review and distribution of project reports. Together, Cheryl and Ryan make sure that the RSA Program objectives are met, and that NOAA Fisheries is managing the RSA programs effectively.

The Councils have an active role in the RSA program too. In addition to setting aside RSA quota and days at sea, the Councils develop research priorities, provide management expertise in reviewing proposals, and consider the use of research results to support their fishery management decisions. The fishing also provides input on research priorities and the review of research proposals.

Other NOAA Fisheries program divisions assist with regulatory and vessel permitting as well as monitoring RSA harvest activities. NOAA staff also provide support with technical expertise on stock assessments and other fishery science questions.

Working together, NOAA Fisheries and the Councils manage these very unique grant programs. RSA projects play an important role in addressing some of the most pressing scallop, monkfish, and Atlantic herring management challenges. For more detailed information on the Research Set Aside Programs, visit our Northeast Cooperative Research Program website at www.nefsc.noaa.gov/coopresearch, or contact Ryan Silva at Ryan.Silva@noaa.gov and Cheryl Corbett at Cheryl.Corbett@noaa.gov.

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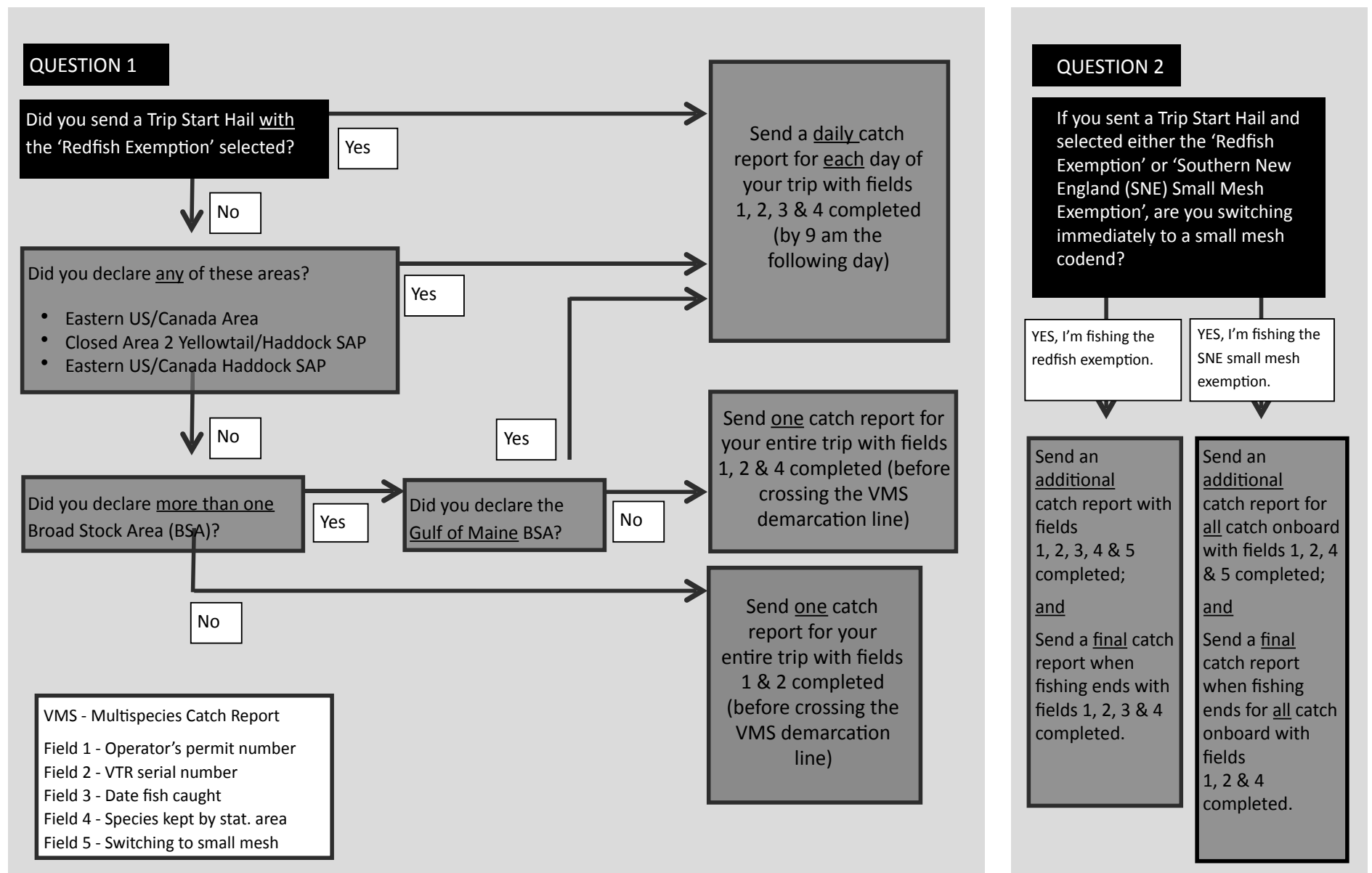
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Groundfish VMS Catch Reporting Requirements

N OAA Fisheries Office of Law Enforcement reminds fishermen of the Vessel Monitoring System (VMS) Catch Reporting requirements. The Multispecies Catch Report

requirements you should follow depends on what type of fishing you are doing. To determine which requirements apply, use the flow chart below. The Northeast VMS Team is available to help you comply

with all your VMS reporting requirements. They can be reached at (978) 281-9213, or by sending an e-mail to NMFS.OLE.NE@noaa.gov.



Electronic Bluefin Tuna Dealer Reporting Coming to SAFIS

Federal Atlantic bluefin tuna dealers will soon be able to use SAFIS electronic dealer reporting (eDR) to electronically submit their bluefin tuna landings reports. Many Greater Atlantic region and Highly Migratory Species dealers already use SAFIS eDR to enter their weekly landing reports for other species. This new functionality will streamline their dealer reporting to a single electronic portal.

SAFIS stands for "Standard Atlantic Fisheries Information System." It was created by state and federal program partners of the Atlantic Coastal Cooperative Statistics Program (ASCCSP) as a

common tool for electronically collecting fishery dependent data. Further information on both ACCSP and SAFIS are available at www.accsp.org.

Current regulations require that bluefin tuna landing reports be filed within 24 hours after landing. The regulations specify that "once available," electronic reporting will be used. Using the new electronic reporting system, dealers will enter landings data on a website application. This application will replace the handwritten, fax-in landing card system that has been in use for bluefin tuna for many years. We hope this makes the process less burdensome. In the longer term, the new application will also collect information

included on biweekly reports, further streamlining bluefin tuna dealer reporting.

Implementation of the bluefin tuna reporting system in SAFIS eDR is expected to occur early this summer (2016). We will notify dealers directly about the availability of training sessions for using the new system, and specific requirements. Further information will be provided in the near future on the Atlantic Highly Migratory Species electronic dealer reporting webpage (<http://www.nmfs.noaa.gov/sfa/hms/compliance/edealer/index.html>). You can also get information about bluefin tuna dealer reporting by calling our office, at (978) 281-9260.

Greater Atlantic Region Proposals Recommended for Funding* under the FY16 Saltonstall-Kennedy Program

The Greater Atlantic Region Fisheries Office has recommended 22 projects for 2016 Saltonstall-Kennedy (S-K) grant funding for 2016. We received 131 applications for FY16 Saltonstall-Kennedy (SK) grant funds for projects in our region. This represents 40% of the 325 proposals received from all over the United States. Fifty projects were selected nationally for approximately \$11.3 million in federal funds. The 22 Greater Atlantic Region projects for approximately \$4.6 million represents about 40% of the national total.

The goal of the SK grant program is to fund projects that address the needs of fishing communities, optimize economic benefits by building and maintaining sustainable fisheries, and increase other opportunities to keep working waterfronts viable. The recommended regional projects fall into seven research priorities and touch on every aspect of marine research, including fishery data collection, socioeconomics, fishing gear and bycatch, aquaculture, seafood promotion, development and marketing, and the effects of climate change.

Greater Atlantic Region proposals recommended for funding

*An application being recommended is not an authorization to begin performance of the project, and is not a guarantee of funding. Final approval is subject to funding availability as well as final review and approval by both NOAA Grants Management Division and DOC Financial Assistance Law Division. No application is “awarded” until it has been signed by the official Grants Officer.

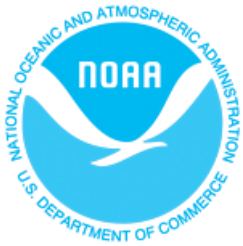
Help Protect Whales: Keep a Safe Distance

Collisions with whales can be dangerous, even fatal, for vessel passengers and whales. Tuna fishermen, and those targeting other fish species, are urged to stay at least 100 feet away from large whales and 500 yards away from North Atlantic right whales). All whales are protected under the Marine Mammal Protection Act. Getting too close to feeding whales or travelling through their bubble clouds may result in collisions, entangle an animal in fishing gear, or cause changes in the animals’ behavior—which are all violations of Federal law. Maximum penalties under the Marine Mammal Protection Act include fines of up to \$20,000, and up to one year in prison.

Fishermen and boaters can also help save whales by reporting sightings of entangled animals. If you see a whale caught in fishing gear, report it immediately to NOAA’s Greater Atlantic Marine Animal Reporting Hotline: 866-755-NOAA (6622) or to the US Coast Guard on VHF CH-16. Standing by the whale until help arrives, or arranging for another vessel to stand-by, provides the animal the best chance of being rescued.

Keep your distance, stay alert, and stay safe. For more information: www.greateratlantic.fisheries.noaa.gov/whalewatch

APPLICANT	PROJECT TITLE	FEDERAL AMOUNT REQUESTED
University of Maine	Development of an ecologically and economically viable northern shrimp (<i>Pandalus borealis</i>) fishery in a changing Gulf of Maine.	\$291,419
Johns Hopkins University	Supply Chains for Aquacultured Oysters: Enhancing Opportunities for Businesses and Shellfish Growers, and Examining Traceability and Food Safety.	\$233,218
Ward Aquafarms, LLC	Evaluation of bay scallop nursery optimization and effective growout strategies.	\$275,800
Commonwealth of Massachusetts	Can climate change induce reproductive failure in American lobster? Case study of a collapsed stock.	\$228,454
University of New Hampshire	Reducing uncertainty in the data- poor assessment of Atlantic wolffish (<i>Anarhichas lupus</i>).	\$194,507
Gulf of Maine Research Institute	Improving the selectivity of lobster traps to reduce the incidental capture of groundfish.	\$158,217
MARINE APPLIED RESEARCH CENTER, LLC.	Adapting to long-term ecosystem change in the Gulf of Maine - surveillance tools and climate model projections for epizootic shell disease in lobsters.	\$249,951
Cape Cod Commercial Fishermen’s Alliance	Establishing Local Markets and Sustainable Supply Distribution Chains to Increase Domestic Consumption of Skate & Spiny Dogfish.	\$220,373
University of Massachusetts Dartmouth	A multi-faceted investigation of the movement patterns, spatial and temporal habitat use, and stock structure of the common thresher shark (<i>Alopias vulpinus</i>) in the western North Atlantic.	\$164,244
The Nature Conservancy	Investigating the stock structure and life history of Atlantic halibut, a Species of Concern off New England.	\$269,616
Cornell University Cooperative Extension of Suffolk County	Evaluation of Conservation Gear Technology to Reduce Black Sea Bass Bycatch in the Small Mesh Longfin Squid Fishery.	\$119,520
VA Institute of Marine Science	Aquaculture methods to advance fishery restoration and commercial production of bay scallop (<i>Argopecten irradians</i>) on the Eastern Shore of Virginia.	\$296,320
University of Rhode Island	The Other EBFM: Designing Ecosystem-Based Fisheries Marketing Strategies to Complement Ecosystem-Based Fisheries Management.	\$155,026
Commonwealth of Massachusetts	A Cooperative Jonah Crab Tagging Effort to Determine Migration, Growth, and Stock Structure.	\$67,482
Commonwealth of Massachusetts	Feasibility of a hook and line survey to assess tautog (<i>Tautoga onitis</i>) in southern Massachusetts.	\$79,762
VA Institute of Marine Science	Age structure and recruitment in the ocean quahog <i>Arctica islandica</i> .	\$275,743
Gulf of Maine Research Institute	Supporting decision-making under climate variability and change: multi-scale forecasts and resources for the Maine lobster fishery.	\$227,804
Rutgers, The State University of New Jersey	Evaluating a New Oyster Cage Culture System to Solve Unique Aquaculture Issues Hampering Development of Oyster Aquaculture in Delaware Bay.	\$249,365
Commonwealth of Massachusetts	Complementary testing of off-bottom trawls to target Georges Bank haddock.	\$299,083
Woods Hole Oceanographic Institution	Modeling the Impact of Climate Change on Larval Connectivity and Recruitment of the American Lobster off of Southern New England.	\$268,386
Northeastern University	Engaging fishers to improve management of striped bass.	\$240,859
Aquacultural Research Corporation	Piloting Surf Clam Aquaculture Techniques to Create Commercial Opportunities.	\$105,245



New Trawl Reduces Cod Bycatch by Half

Guest contributors: Steve Eayrs (Gulf of Maine Research Institute) and Michael Pol (MA Division of Marine Fisheries)

Groundfish fishermen in the Gulf of Maine must avoid cod because stock abundance and quotas have reached historic lows. However, avoiding cod while retaining valuable flatfish is a challenge, in part because there is little historical precedent and few trawls have been developed with this outcome in mind.

As part of a project called GEARNET, funded by NOAA Fisheries' Cooperative Research Program, fishermen and researchers worked together to test the ability of a "topless" trawl to avoid cod without losing flatfish. As the name implies, a topless trawl has most of the top panel removed, and the headrope is much longer than the sweep. Removing the top panel enables cod to swim upward and escape the trawl. Flatfish stay close to the bottom, so their catch should be minimally affected.

Catches in the topless trawl were compared with catches in a standard flounder trawl in an area west of the Whaleback closure and north of Cape Ann. The headrope of the topless trawl was 71% longer than the sweep, and 32 plastic 8-inch floats were attached to the headrope in groups of four floats. Four groups of floats

were located on either side of the center of the headrope, one group at each wingend, and one group between those at the wingends and those coming from the center of the headrope. This net represented the longest headrope and most flotation ever tested on a topless trawl in the Gulf of Maine, and was the brainchild of well-known groundfish fisherman, Carl Bouchard.

Catches were measured from a total of 60 1-hour tows (30 with each trawl) at an average depth of 34 fathoms. Approximately 47,000 pounds of fish, crabs, and other animals were captured, and cod, yellowtail flounder, American plaice, grey sole, spiny dogfish, and unclassified skates comprised 95% of the total catch by weight. The average towing speed was 2.7 kts.

Catch rates of cod ranged from 0 to 4,400 pounds per hour and were consistently lower, or nearly equal, in the topless trawl relative to the standard trawl. Overall, cod catches were reduced using the topless trawl by an average of 423 pounds per hour, or by 51.4%. There was no significant difference in cod length between trawl type, and there was a decreasing proportion of larger cod in the topless trawl. Catch rates of American plaice were also significantly reduced by the topless

trawl, by an average 25 pounds per hour, although this reduction was made up mainly of undersized fish. There was little reduction in catch rates of grey sole, yellowtail flounder, and spiny dogfish using the topless trawl.

The performance of the topless trawl is a significant step towards enabling fishermen to avoid catching cod while groundfishing. "The success of this trawl appears to be linked to the longer headrope length and greater flotation," says Dr. Steve Eayrs, a conservation engineer at the Gulf of Maine Research Institute. "The extra-long headrope length gives cod an opportunity to rise and escape over the trawl, while the additional flotation prevents flatfish from escaping, particularly at the wings of the trawl."

"Flounder nets can be inexpensively modified to this topless design," says Mike Pol, a senior biologist at the Massachusetts Division of Marine Fisheries, "and this design outperforms previous topless trawl studies in New England. With this net, we see opportunity for targeting flounder and minimizing the impact of low cod quota on fishing activity."

For more information about this project, contact Steve Eayrs, Gulf of Maine Research Institute, at (207) 228-1659 or email him at <steve@gmri.org>.

Research Update: NEFSC Cooperative Gulf of Maine Bottom Longline Survey

This spring, a collaborative research team of two commercial longline fishing vessels and staff supported by our NEFSC Northeast Cooperative Research Program completed another round of sampling in the Gulf of Maine. The team also collaborated with scientists from the New England Aquarium to research the effects of barotrauma on bottom-dwelling species.

The survey uses bottom longline gear deployed from commercial fishing vessels. The focus is rocky habitat that is not easily sampled by trawl gear. The forty-five main sampling stations are distributed over the same areas sampled by the NEFSC's Research Vessel *Henry B. Bigelow* to allow comparisons of catches caught in rocky versus smooth bottom, and by hooks versus nets.

Using various gear types for sampling gives a more complete picture of the fish that are present across an area. Each gear type catches fish differently. For example, in the 2014 and 2015 surveys, cusk were the second most abundant species caught by hook, but only the 26th most abundant species surveyed by net. However, fish like silver hake are easier to catch in nets. Silver hake were the most abundant fish caught in NEFSC net



NEFSC, NOAA photo

survey during 2014 and 2015, but ranked 35th during the longline survey. Surveying with different gear types can help identify these differences and give insight into fish behavior and habitat use.

The planned October trip will complete the third year of this longline survey. Three years of data provides a sufficient time series to allow scientifically sound analysis of the data.

Enhanced Opportunities

After the spring survey leg, the team worked with scientists from the New England Aquarium (NEAq) to study the effects of barotrauma on bottom-dwelling species. Barotrauma is the damage caused to a fish when it experiences a significant reduction in pressure as it comes up from the higher pressures of deeper waters. The NEAq has been studying barotrauma and ways to limit this damage in shallow areas, but did not have platforms available to sample deep-water areas. The Greater Atlantic Region's Protected Resources Division supplemented survey funding, supporting four vessel days for NEAq scientists to perform jig sampling in deeper waters. Protected Resources staff are interested in rocky-bottom dwelling species such as cusk and wolfish which are especially prone to barotrauma.

The bottom longline survey also collects valuable information on the reproductive potential of fish. Reproductive samples collected from collaborative projects expand the areas and seasons sampled, increasing the data available for stock assessments. By the end of the spring 2016 season, the bottom longline survey collected more than 950 fish samples for reproductive studies.

For more information on this research, contact Carolyn Woodhead, Northeast Cooperative research Program, at Carolyn.Woodhead@noaa.gov