



Northeast Cooperative Research Program Coordinating Groundfish Gear Studies

Since 2010, the Northeast Fisheries Science Center's Northeast Cooperative Research Program (NCRP) and its partners have been developing a region-wide conservation engineering network to develop strategies to conserve both target and non-target fish species.

The network brings together the commercial fishing industry, researchers, and state and federal government agencies to develop multi-disciplinary approaches to conservation efforts. To date, these efforts include exploring bycatch reduction and fish distribution patterns through gear modifications.

The Northeast Groundfish Gear Conservation Engineering & Demonstration Network (GEARNET) is a primary part of this network, focusing on bycatch solutions for groundfish fisheries.

GEARNET aims to help develop and test tools to reduce the unwanted catch of "choke" species and to avoid excessively large catches. Increasing the selectivity of gear will enable fishermen to harvest more of their allotted catch while avoiding bycatch that could shut down their fisheries. Additional GEARNET projects are exploring ways to increase the fuel efficiency of fishing activities, thus reducing their environmental impact and increasing profitability.

The network's current projects bring together resources from a variety of institutions, including: the Gulf of Maine Research Institute, the University of Massachusetts Dartmouth School for Marine Science and Technology, the Massachusetts Division of Marine Fisheries, the Rhode Island Coastal Resources Management Council, and New Hampshire Sea Grant.

Initial industry participants include: Trawlworks Inc., Superior Trawl, and fishermen David Goethel of Hampton, NH, Carl Bouchard of Exeter, NH, and Daniel Murphy of Gloucester, MA.

Initial Projects

After consulting with each groundfish sector and fishermen in the common pool, GEARNET has embarked on several initial pilot projects.



Setting out the experimental detachable codend and parachute designed to limit catch size

Massachusetts Division of Marine Fisheries photo

• Topless flounder trawl – This project focuses on the development and testing of a groundfish net modified into a topless trawl to better target flounder while avoiding cod and haddock.

The testing phase, in which the modified net was compared to a standard trawl, was completed in June and data analysis is currently underway to determine the selectivity of the net.

• Codend selectivity and sensors – This project will focus on reducing bycatch of non-cod species while increasing the value of cod captured by targeting larger fish. It also intends to demonstrate the effectiveness of codend sensors on smaller vessels.

A standard 6-1/2" codend will be compared with three 7"-to-7-1/2" square and diamond mesh codends to determine the selectivity of the experimental gear.

Fuel use also will be monitored to determine the overall profitability of the modified gear, meaning the value of the catch minus fishing costs. The hope is that results from the study will aid fishermen in fishing more selectively and more economically.

• Detaching codend – This proof-of-concept project focuses on developing an inexpensive, underwater-detaching codend to address the problem of catching large amounts of unwanted fish species.

This gear is designed to close off the codend once a specific volume of fish is caught, and release any additional fish that enter the net. When the codend detaches, a parachute is released, increasing the drag, which acts as an indicator to the vessel to retrieve the gear.

Nineteen tows were completed as of July, and underwater video of the design was taken.

These initial projects drew on the knowledge of sector and common pool fishermen, experts in gear design, and government and academic scientists to develop and test innovative ideas to aid fishermen in harvesting their full quota of targeted species and making their businesses as profitable as possible.

For more information, please visit <www.gearnetwork.org>.

New Shortfin Mako Shark Interactive Web Map

NOAA Fisheries Service is encouraging the live release of North Atlantic shortfin mako sharks (*Isurus oxyrinchus*) to protect future spawning stocks. Because the majority of domestic Atlantic shortfin mako sharks landed are sexually immature, NOAA Fisheries is promoting their live release to foster a more stable population of mature fish.

To help achieve this goal, NOAA Fisheries has developed an interactive website where commercial and recreational fishermen can contribute information about shortfin mako shark releases and literally put their makos on the map.

The shortfin mako live release webpage also contains current information on shortfin mako stock status and regulations, along with details on tagging programs and safe handling



Mark Sampson photo

and release guidelines.

The main page, which has a link to the web map page, can be found at <www.nmfs.noaa.gov/sfa/hms/shortfinmako>.

Additionally, NOAA Fisheries has released a new app for Android devices that allows fishermen to share information about catching and releasing shortfin mako sharks. With the "Release Mako Android App," fishermen can report live releases of shortfin

mako sharks from Android mobile devices while still on the water. Visit <<http://go.usa.gov/Zng>> to download the app.

For more information on the webpage, Android app, or to request outreach materials, please contact the Atlantic Highly Migratory Species Management Division by phone at (301) 427-8503 or by e-mail at <shortfinmako@noaa.gov>.



New Scallop Regulations Create Fishing Opportunities

This summer, NOAA Fisheries Service implemented two regulatory actions that increase fishing opportunities for scallop fishermen and improve flexibility for those in the individual fishing quota (IFQ) fleet.

Amendment 15 to the Atlantic Sea Scallop Fishery Management Plan (FMP) continues to prevent overfishing and improve management of the scallop fishery, while Framework 22, implemented on Aug. 1, includes days-at-sea and trip allocations for the 2011 and 2012 fishing years, along with measures to protect threatened loggerhead sea turtles.

In 2010, the scallop fishery had a catch target of 47 million pounds. In 2011, the catch limit is higher, 51 million pounds, and will be even higher in 2012, 54 million pounds.

The Hudson Canyon Access Area has been key to the scallop area rotation program since 1998 and has been re-opened after being closed for three years. The Closed Area I and Closed Area II Scallop Access Areas on Georges Bank, which are located within the Northeast Multispecies closed areas, also opened as part of the scallop rotational area management program. These areas were added to the rotational program that already includes the Delmarva Access Area, which has been opened since 2009.

Catch limits, bycatch

These regulatory actions implemented the process developed by the New England Fishery Management Council that identifies specific catch limit levels and makes reductions to account for uncertainty in both the scientific information on scallop resource status and the

impacts of management measures on scallop catch.

Each year, the annual catch limit is divided between the limited access and scallop IFQ fleets. By establishing separate catch limits for each fleet of vessels, one fleet will not have to pay for another fleet exceeding its annual catch limit. If a fleet does exceed its annual catch limit, it must pay for that overage through an accountability measure in the form of a days-at-sea or quota reduction in the following fishing year.

This process also specifies scallop catch limits for the Northern Gulf of Maine management area, a fairly small catch component of the scallop fishery.

Scallop vessels commonly catch yellowtail flounder in some areas. To ensure that the scallop fishery continues to provide needed protection for yellowtail flounder and help this resource rebuild, there are scallop fishery annual catch limits for Georges Bank and Southern New England yellowtail flounder with area and time closures if the limits are exceeded.

In the Mid-Atlantic during the summer months, the distribution of endangered and threatened sea turtle populations overlaps with the scallop fishery. To provide opportunity to scallop fishing vessels while providing protections to sea turtles, scallop fishing effort is limited in portions of the Mid-Atlantic from June through October.

Management improvements

There also are several new measures aimed at improving management of the scallop fishery. The new overfishing definition is more compatible with the area rotation program – the cornerstone of the scallop

FMP – and should prevent excessive fishing levels in open areas.

Two-year frameworks now will include default management measures for a third year to be more consistent with expected resource conditions than measures carried over from the prior year. This will help reduce problems that have resulted from the late implementation of frameworks in the last several years.

Another measure makes current habitat protection area closures consistent between groundfish and scallop regulations, while allowing an increase in fishing access for scallop vessels in two of the closed areas.

The new management measures increase operating efficiencies and flexibility for some scallop vessels with IFQs. For example, the trip limit is increased from 400 pounds to 600 pounds, the quota transfer program allows permanent transfers of all or some of a vessel's quota without impacting other fishery permits, and unused quota now can be carried over into the next fishing year.

Finally, this summer's scallop actions enhance opportunities for scallop fishermen and scientists to partner in research by: increasing the scallop research set-aside; exempting vessels involved in research from some fishing regulations; allowing multi-year awards for federally funded research projects; and increasing flexibility for vessels involved in research to catch the scallops that help fund the research.

For more information, call Peter Christopher, NOAA Fisheries Service Northeast Regional Office, at (978) 281-9288 or e-mail him at <peter.christopher@noaa.gov>.

Electronic Vessel Trip Reporting Now an Option

Owners or operators of commercial groundfish vessels with federal permits now have the option to submit their vessel trip reports (VTRs) electronically.

Vessel trip reports are required to provide information on when and where catch occurred. Electronic reporting will make the collection of important data on fishing vessel activity more efficient, convenient, and timely for the fishing industry, fishery managers, and other data users.

“We want to make it easier for anyone interested to submit their data electronically instead of on paper,” said Patricia Kurkul, regional administrator for NOAA Fisheries Service. “Electronic reporting is a way to improve the quality and timeliness of industry-generated data so critical to managing the fishery. This initiative is a recommendation of our recent management review and is something in which the fleet has been increasingly interested.”

While the electronic submission of VTRs is voluntary, operators of all federally permitted vessels,

with the exception of those possessing only a lobster permit, still must complete a VTR prior to docking. In the groundfish fishery, all VTRs must be submitted by midnight Tuesday for trips completed in the previous week.

During the next several months, NOAA Fisheries will work with interested members of the fishing industry to expand the use of electronic vessel trip reporting throughout the groundfish and other fisheries.

So far, the use of electronic VTR, now called eVTR, has been authorized for vessels that possess a valid federal multispecies permit *and* participate in at least one of the following fleets:

- Sector vessel fleet;
- Cooperative Research Study Fleet; or
- Gulf of Maine Research Institute's eVTR pilot study fleet.

NOAA Fisheries is continuing to develop eVTR systems and infrastructure that will soon enable

additional vessels and other segments of the fishing industry to begin submitting eVTRs.

Currently, eVTR is run on the Fisheries Logbook Data Recording System (FLDRS) software (version 3.0). Upgrades for this system that allow secure transmission and authentication of eVTRs have been incorporated into this version of the software, which must be used to submit VTRs electronically.

While FLDRS is currently the only software that supports eVTRs, additional software systems are under development. To obtain the FLDRS 3.0 software, call Joan Palmer, Northeast Fisheries Science Center, at (508) 495-2247 or e-mail her at <Joan.Palmer@noaa.gov>.

All vessel operators who will be completing an eVTR must obtain a confidential password. This password will serve as an electronic signature and is required to submit an eVTR. Vessel trip reports will be encrypted prior to transmission to maintain the confidentiality of data being transmitted.

To participate or for more information about the eVTR program, call Barry Clifford, NOAA Fisheries Northeast Regional Office, at (978) 281-9148 or e-mail him at <Barry.Clifford@noaa.gov>.

Entangled Sea Turtles: Here's What to Do

From Maine through Virginia, fishermen may encounter any of five species of sea turtles found in this area – the green, hawksbill, Kemp's ridley, and, most commonly, leatherback and loggerhead sea turtles.

All sea turtle species in US waters are protected under the Endangered Species Act (ESA). Sea turtle populations have been reduced from historical numbers for many reasons, including hunting and egg harvesting, alteration of nesting habitat, vessel strikes, and capture in fishing gear.

In 2010, NOAA Fisheries Service published biological opinions (BOs) for eight federal fishery management plans (FMPs). A biological opinion states whether a federal action, in this case a FMP, is likely to jeopardize the continued existence of a threatened or endangered species or result in the destruction of critical habitat of these species.

The BOs for Atlantic mackerel/squid/Atlantic butterfish, Northeast multispecies, Atlantic bluefish, American lobster, monkfish, Northeast skate, spiny dogfish, and summer flounder/scup/black sea bass included measures to minimize impacts to sea turtles from fishing gear interactions.

Sea turtle distribution often overlaps with fishing



NOAA/ Kate Sardi Sampson photo

effort, and sea turtles have been captured or entangled in a wide range of fishing gears including pound nets, weirs, dredges, trawls, gillnets, pot/traps, longlines, and

hook and line gear.

If a turtle gets entangled in fishing gear such as a vertical line or gillnet, it should be handled to ensure that all of the gear is removed from the turtle before it is released. Even a small amount of gear, such as a small piece of line wrapped around a turtle's flipper, can lead to serious injury or mortality over time.

NOAA Fisheries has distributed sea turtle handling and resuscitation requirements for turtles caught in fishing gear. Fishermen are responsible for the proper handling and resuscitation of sea turtles. These requirements may be downloaded online at: <www.nero.noaa.gov/prot_res/stranding/SeaTurtleHandlingResuscitationv1.pdf>.

Call the hotline

Due to the challenging nature of entanglements, NOAA Fisheries requests that fishermen report these events immediately to the Northeast Region hotline: 1-866-755-NOAA (6622).

Once the hotline is called, NOAA Fisheries staff will work with the reporting party and local responders to determine what is needed for a successful response. Trained responders often will travel to the site to disentangle the animal. It is important that the reporting party work with NOAA Fisheries personnel on the hotline and stand by the animal, if possible, to ensure a successful response. Responders also will determine if the turtle requires veterinary care or rehabilitation and arrange for transportation to an appropriate facility.

In some cases, factors such as distance from shore or weather may prohibit responders from reaching the entangled turtle in a timely manner. To prepare for these situations, the eight BOs authorize federally permitted fishermen in these fisheries to disentangle sea turtles from their gear.

NOAA Fisheries has provided these fishermen with a placard describing guidelines for sea turtle disentanglement. However, when encountering an entangled sea turtle, fishermen still should call the NERO hotline for assistance from trained responders and to report the entanglement. In addition, please remember that sea turtles caught in fishing gear must be reported on the Fishing Vessel Trip Report.

For more information, call Kate Sampson, NOAA Fisheries Service Northeast Regional Office, at (978) 282-8470 or e-mail her at <kate.sampson@noaa.gov>.

Simple Steps for a Smooth Vessel Permit Application Process

The NOAA Fisheries Service Northeast Region's Permit Office issues thousands of permits each year to seafood dealers, commercial vessels, and party/charter vessels.

These permits are critical for several reasons: they authorize you to conduct specific activities; they provide us with information we use to describe the different kinds of businesses in the fisheries; and they allow us to notify you of fishery closures, regulatory changes, and/or upcoming meetings.

It can take up to 30 days to review a permit application and issue a permit, even if the permit application is completed perfectly. However, if a permit application is incomplete or filled out incorrectly, it may take longer to get you on your way with your new permit.

Here are a few common application problems.

- Missing Vessel Trip Reports (VTRs) - Anyone seeking a federal permit must submit an accurate and timely VTR for each fishing trip. Your vessel permit will not be reissued until you submit *all* of your VTRs. If you submit an incomplete VTR, it will be returned to you for correction, and your vessel permit will not be issued until the VTR is resubmitted and accepted.

You may view the data you have submitted and check on the status of your VTR submissions at our Fish-On-Line website, <www.nero.noaa.gov/NMFSlogin>. If you haven't registered yet, call us at (978) 281-9133 to get a personal identification number (PIN) to access Fish-On-Line. To speak to NOAA Fisheries staff about other VTR issues, call (978) 281-9246.

- Vessel Monitoring System (VMS) problems – If you are applying for a permit with a VMS requirement, we will reissue your vessel permit

once we confirm that your VMS is activated. Call the VMS team at (978) 281-9274 if you have questions regarding VMS requirements.

- Expired documents - Check the expiration date of state registration or Coast Guard documentation. We cannot process your application if these are expired or cannot be read.

- Received late - Some permit programs may have application deadlines, and applications received after the deadlines will not be accepted. We emphasize application deadlines when they are established, but you need to read all application materials closely and be aware of deadlines. Don't wait until the last minute if you are applying for a permit with an application deadline.

- Mystery documents – Put your vessel name and permit number on all documents, particularly if you are submitting supplemental documents separate from your application form. Use your legal name on all of your application materials. We can't match your application with your other documents if you use a variety of names.

- Keep copies - Keep photocopies of your application and all forms that you complete and submit. If we have questions about your application, these copies can help you respond.

- Call us - We are happy to answer questions about the application form or permit process. If you are unsure about completing the application forms, please do not hesitate to call (978) 282-8438 with any question, large or small. You also can get information online at <www.nero.noaa.gov/permits>.

If you have any suggestions, please contact us. We welcome your comments to help make the permit process more efficient and effective.

Large-Scale Restoration Project Revitalizes River Herring Habitat

In fall of 2010, the NOAA Restoration Center, in conjunction with the Rhode Island Coastal Resources Management Council (RI CRMC), the Wood Pawcatuck Watershed Association, and other federal, state, and local partners, removed the 133'-long Lower Shannock Falls Dam on the Pawcatuck River, opening passage for fish that had been blocked for more than 100 years.

This was the first of three construction projects to be completed on the Pawcatuck River as part of a larger \$3.5 million American Recovery and Reinvestment Act (ARRA) award to the RI CRMC through NOAA.

With these funds, the RI CRMC will complete six major restoration projects benefiting migratory fish, three each on the Ten Mile River near Providence and on the Pawcatuck River in southern Rhode Island. These projects will create or enhance passage and improve river habitat for migratory fish such as blueback herring and alewife, collectively called river herring, American shad, and American eel.

Each spring, adult American shad and river herring migrate from the ocean into coastal rivers along the Atlantic seaboard to spawn in freshwater portions of the rivers or in the headwater ponds.

In the Pawcatuck River, dams have impeded this spawning migration since the Industrial Revolution. American shad and river herring have historically supported fisheries for human consumption and bait. They are also important to the marine food web and are preyed upon by other fish, birds, and mammals. Presently, American shad and river herring stocks are severely depressed.

The Pawcatuck River rises from the glacially formed Worden's Pond and the Great Swamp, Rhode Island's largest swamp habitat, and flows approximately 30 miles into Little Narragansett Bay. The three ARRA construction projects are located in the upper portion of the river in the rural communities of Richmond and Charlestown. This area is known for its high water quality and for its potential to support Atlantic salmon, which once inhabited the river.

In the 1600s, the Narragansett and Pequot tribes fought a fierce battle over fishing rights at the site of the Lower Shannock Falls Dam removal, presumably over Atlantic salmon. Together, the Pawcatuck projects will open approximately 10 stream miles to migratory fish and will provide access to 1,300 acres of high-quality spawning and nursery habitat in Worden's Pond

Fishway construction

On July 5, ground was broken on construction of a fishway at the Horseshoe Falls Dam, the second of the three Pawcatuck projects. Merely a half mile upstream from the former Lower

Shannock Falls Dam, the 120'-long Horseshoe Falls Dam is valued for its highly aesthetic horseshoe shape and is frequently photographed by history enthusiasts and tourists alike.

The construction of the fishway, a chute-like structure with wooden baffles that reduce water velocity, will allow migrating fish to pass the dam while retaining the dam's historic features.

The Horseshoe Falls Dam fishway also will include a specialized ramp to allow American eels to pass. Unlike river herring and American shad that spawn in freshwater, eels are born in the Sargasso Sea and migrate to

coastal rivers as young elvers. Eels grow and live in the freshwater environment for a number of years. Adults then migrate back to the Sargasso Sea to spawn.

Construction at the Horseshoe Falls Dam is expected to be completed this fall and, starting in the spring of 2012, Rhode Island State fish biologists will have the opportunity to monitor how migrating fishes use the fishway and to monitor elvers via a trap attached to the top of the eel ramp.

Design of a rock ramp, a nature-like fishway, is in the final stages for the 75'-long Kenyon Dam, the third of the funded projects and the final barrier below Worden's



Kristen Ferry, IMSG/NOAA Restoration Center photo

Site of Lower Shannock Dam removal

Pond. The rock ramp will allow fish to swim through a series of natural boulder weirs increasing in elevation to the crest of the dam, where they can continue upriver to Worden's Pond. The ramp structure and retention of the dam is necessary to accommodate fire suppression needs of an adjacent mill, which also is the dam's owner. Construction of the ramp will begin in the summer low water period of 2012.

Many benefits

In addition to restoring both connectivity for fish and natural riverine processes, the Pawcatuck projects have created or supported local construction and engineering jobs.

Other benefits include enhancement of Rhode Island's fresh and saltwater fisheries and improved recreational and educational opportunities for the rural communities near the river.

For the town of Richmond, the removal of the deteriorating Lower Shannock Falls Dam eliminated dam maintenance and safety liability. A locally funded park and canoe portage is now being constructed in conjunction with the removal project.

The NOAA Restoration Center is dedicated to restoring the nation's coastal ecosystems and preserving diverse and abundant marine life. Through its strong commitment to restoration and by promoting partnerships and local stewardship, the center strives to inform and inspire people to act on behalf of a healthier coastal environment. For more information about the NOAA Restoration Center, visit <www.restoration.noaa.gov>.



Jim Turek, NOAA photo

Construction of fishway at Horseshoe Falls Dam



The NOAA FISHERIES NAVIGATOR