

NEFSC Longline Survey to Study Capture Rates of Specific Species

Staff from the Northeast Fisheries Science Center's Cooperative Research Branch (CRB) are preparing equipment and finalizing protocols for a research project in August focused on evaluating the impact of soak time and hook availability on catch rates of several species for the Cooperative Gulf of Maine Bottom Longline Survey (BLLS).

Operating in the Gulf of Maine every Spring and Fall since 2014, the BLLS compliments the NEFSC's Bottom Trawl Survey by targeting species that prefer rocky habitats with baited hooks. The work conducted this summer will help researchers understand at what rates different species interact with the gear as it fishes and potentially how different species and sizes within a species may influence catch rates. The results of this project will improve analyses of the BLLS indices of abundance and increase the survey's value for stock assessments and fisheries management.

Trips on two chartered commercial fishing vessels, the F/V Tenacious II of Barnstable, MA and the F/V Mary Elizabeth of Scituate, MA, are expected to sail during the week of August 23, 2020, sampling 23 paired stations in the Gulf of Maine.

"Improving the understanding of the capture rates of specific species in the longline survey would allow for higher confidence in interpretation of catch rates and increased utility of the BLLS time series," said Dave McElroy, operations lead for the bottom longline survey.

During normal operations, longlines composed of 1,000 hooks over one nautical mile baited with squid are deployed for a 2-hour soak across the slack tide. When the gear is retrieved, scientists weigh,

measure, and sample all the catch. They collect biological, abundance, and environmental data at 45 randomly stratified stations.

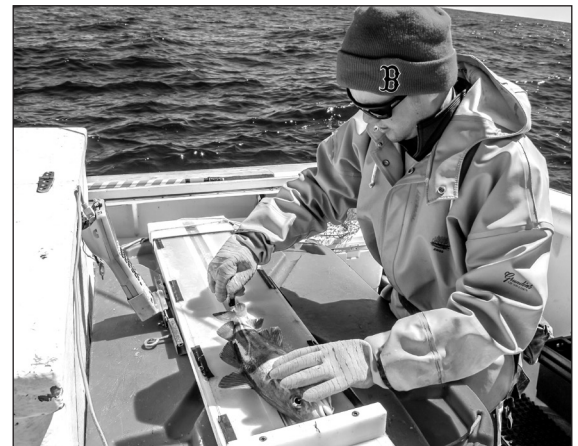
The study seeks information on what happens under the surface while the gear is soaking, which can provide insight into how well that gear catches different types of fish. Unraveling the complex interactions among fish of different sizes and species helps scientists understand who ends up caught on the hook.

"Hook availability is ultimately the biggest factor driving the efficiency of longline gear," McElroy said.

Knowing how decreased hook availability due to either fish presence or the consumption of bait (for example by invertebrates) improves confidence for researchers in interpretation of catch rates, use in assessments, and can improve future survey protocols.

To accomplish the project's goals, CRB staff are working closely on survey design with the captains of the two commercial vessels chartered to perform this work. Working in tandem, the two vessels will set their gear in parallel sets. These paired sets will allow researchers to compare species and size composition at shorter soak times than the standard 2-hour survey soak.

For further information, contact Giovanni Gianesin, Cooperative Research Branch, at giovanni.gianesin@noaa.gov.



NOAA Fisheries photos

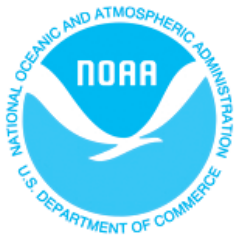
Update on McMurdo VMS Units

In December 2019, the McMurdo Vessel Monitoring System (VMS) provider informed NOAA Fisheries that the Omnitrac Canada satellite service would go offline on March 31, 2020. Because of VMS requirements, owners of several hundred Northeast fishing vessels outfitted with 'Omnitracs' VMS units had to replace those units with another approved unit before the March 31 deadline. Today, only 29 vessels still need to replace their Omnitrac unit. These remaining vessels have been issued a Letter of Exemption (LOE) and are compliant with the power down regulations.

In order to remain fully compliant with VMS regulations, owners of vessels issued an LOE must replace their Omnitrac VMS units before the end of the LOE period. The Office of Law Enforcement, Northeast Division (NED) is working with the General Counsel Enforcement Section and the Greater Atlantic Regional Fisheries Office's Sustainable Fisheries Division to ensure all vessels meet regulatory requirements and have an approved VMS installed. NED continues to assist owners and track each Omnitrac-equipped vessel toward the goal of full compliance.

McMurdo developed a new VMS unit called 'OmniCom' and has requested NOAA Fisheries type approval. Our Office of Law Enforcement (OLE) began testing the new VMS unit in mid-January upon receipt of McMurdo's application. The new OmniCom VMS uses the Iridium satellite network – the largest commercial satellite network ensuring global coverage. The Northeast VMS Team has performed multiple rounds of testing on this new VMS unit, most recently using portable units due to restrictions imposed by COVID-19. Although testing is ongoing, OLE cannot state with certainty when the OmniCom VMS will be approved for commercial industry use.

For questions about the Northeast VMS Program, please call OLE at 978-281-9213 or send an email to nmfs.ole.ne@noaa.gov.



The NOAA FISHERIES NAVIGATOR

September Stock Assessments for Groundfish and Scallops

There will be a peer review for groundfish and sea scallops stocks from September 14-18, 2020.

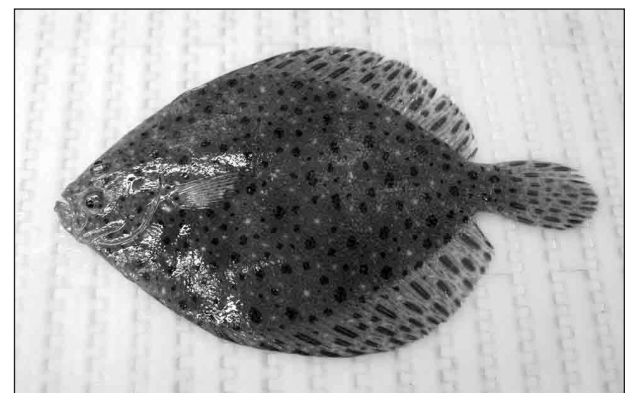
Data in stock assessments come from the fishing industry and scientific research. Taken together these data describe the population dynamics of a stock--how many fish are entering a stock through birth, the age structure of a population, and how many fish are removed from the stock either through natural death or by fishing.



Atlantic sea scallops



Acadian redfish



Windowpane flounder

Stocks

- Acadian redfish
- Atlantic halibut
- Atlantic wolfish
- Ocean Pout
- Red hake (Northern and Southern)
- Sea scallops
- Silver hake (Northern and Southern) and offshore hake
- Windowpane flounder (Northern and Southern)
- Winter flounder (Gulf of Maine, Georges Bank, and Southern New England/Mid-Atlantic)

For more information visit: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/population-assessments/2020-management-track-assessments>, or contact Ariele Baker, Stock Assessment Communications Manager, at ariele.baker@noaa.gov.

Atlantic Sturgeon Safe Handling and Release

Summer is in full-swing and boats are not the only thing returning to our rivers.

From Delaware to Canada, adult Atlantic sturgeon are returning to our rivers to spawn in the spring and early summer. During spawning runs, sturgeon can show up on the surface, in the air (they jump), and at the end of fishing lines. Throughout the summer and early fall, Atlantic sturgeon may also be found in coastal waters, bays, and sounds.

Because Shortnose and Atlantic sturgeons are protected by federal law due to their endangered status, extra care and attention by anglers is essential if either species is inadvertently caught.

What SHOULD you do if you accidentally catch a sturgeon?

Release the fish from the line as soon as possible, even if that means cutting your line. Our Atlantic sturgeon safe handling guidelines detail how to release the fish with care:

Rapidly handle the fish with care, and keep it

underwater to the maximum extent possible during handling. Keeping the fish in the water minimizes stress and injury to the fish and can help to reduce the chance that the fish will inflate its swim bladder.

A sturgeon with an inflated swim bladder will float when released and leave it susceptible to bird attacks and being struck by vessel traffic.

If the fish has air in its swim bladder, you can help to release it by gently applying pressure to the underside of the fish as you move your hand from the tail toward the head.

As you release the fish, hold it underwater to the greatest extent possible. If the fish is not moving, you can help water to pass over the gills by gently holding the tail fin and moving it side to side to cause a gentle sideways motion of the fish. This step is unnecessary if the fish is vigorous and trying to move on its own.

Release the fish as soon as the hook or line is removed. Anecdotal reports suggest that sturgeon are most often snagged by a hook or wrapped in the line. Quick removal of the gear typically ensures that the fish remains active and is able to swim away under its own power.

Watch the fish to ensure it swims away, stays underwater, and does not float to the surface. If it does not swim away or it resurfaces, repeat steps 2 or 3 above, as appropriate, and only if it is safe for you to do so.

What you should NOT do if you accidentally catch a sturgeon.

If you happen to snag a sturgeon and the fish is fighting, do not keep the fish on the line for the experience or to get it to the boat. Moreover, while fish photos are cool, we discourage close contact or photo ops with endangered species. Even if you return the fish safely to the water, without the proper permits, it is illegal to lift sturgeon out of the water to take photos.

Resources and Reporting

We encourage you to follow all state and federal regulations. If you are interested in learning more about Atlantic sturgeon visit <https://www.fisheries.noaa.gov/species/atlantic-sturgeon> for more information.

If you find a stranded, injured, or dead sturgeon, please report it to NOAA Fisheries at (978) 282-8473 or send us an email at nmfs.gar-sturgeon-salvage@noaa.gov.

To request a free tackle box sticker, email jolvan.morris@noaa.gov.



Saltonstall-Kennedy Grant to Commercial Fisheries

Research Foundation Supports Lobster and Jonah Crab Management

The Greater Atlantic Regional Fisheries Office administers financial assistance programs to states and other non-federal interests that include universities, fishery management commissions, fishery development associations, and even fishers themselves for carrying out projects that relate to conservation, management, and utilization of fishery resources from the Northwest Atlantic.

The Saltonstall-Kennedy (S-K) grant program specifically funds projects nation-wide 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. Projects are selected annually on a competitive basis. The most recent competition supported 30 projects nationally, with 8 projects funded out of the Greater Atlantic Region. One of these projects was awarded to the Commercial Fisheries Research Foundation (CFRF) a nonprofit, private foundation established by commercial fishermen to conduct collaborative fisheries research and educational projects. Their S-K project focuses on continuing support to the

management of the lobster fishery and emerging Jonah crab fishery in the Northeast.

The CFRF has operated a Lobster and Jonah Crab Research Fleet since 2013, with the goal of implementing a cost-effective method to collect critically needed biological and catch data for Jonah crab and American lobster using between 18-21 commercial fishing vessels. The Fleet samples lobster, Jonah crab, and bottom water temperature from regions in the Gulf of Maine, Georges Bank, and Southern New England, providing data from areas and times of year not covered by existing surveys. Participant vessels sample a minimum of 300 lobsters or 60 commercial traps per month to record lobster size, sex, if females are egg bearing and/or v-notched, severity of shell disease, shell hardness, and whether the lobster is retained or discarded. Vessels also sample a minimum of 150 Jonah crabs or 60 commercial traps per month to collect Jonah crab data such as size, sex, eggs, shell hardness, and whether retained or discarded. In addition to sampling commercial traps, lobstermen deploy and sample up to three ventless traps each month. Temperature sensors are deployed at fixed locations and sampled

along with the ventless traps to provide a unique data set to further investigate the relationship between water temperature and these fisheries. All of the data collected at sea is stored and viewed using apps developed by the team which send the information to a central database at CFRF once a fishing vessel returns to shore. Fleet participants receive a monthly stipend for their data collection efforts.

To date, the CFRF reports that just under 150,000 lobsters have been sampled along with 84,000 Jonah crab since the research fleet began in 2013. The fleet's data have already been used in the lobster stock assessment and the Jonah crab management plan. This collaboration of industry and managers supported by the S-K grant program, plays a valuable role in helping NOAA Fisheries manage important fishery resources and continue to support stakeholders in fishing communities.

For more information on the S-K Grant Program, please visit <https://www.fisheries.noaa.gov/grant/saltonstall-kennedy-grant-program>

For more information on the CFRF Lobster and Jonah Crab Research Fleet, please see <http://www.cfrfoundation.org/jonah-crab-lobster-research-fleet>

APSD Reorganizes to Provide Better Service to Industry

Last fall GARFO underwent a small reorganization. This moved the Port Agent Team into the Analysis and Program Support Division (APSD) where the region's permitting, data reporting, and quota monitoring activities reside. The goal of this is to provide better service to fishery participants as they work to meet our permitting and reporting requirements. Port Agents are located in the major fishing ports in the region from Maine to Virginia. They have always been involved in working directly with all segments of the industry to help explain and navigate our requirements, and to collect biological information on commercial landings.

Under this reorganization, Port Agents will be providing an increased level of service to vessel owners and operators, and seafood dealers in their areas. They will continue to work with seafood dealers to help them with reporting their purchases, including troubleshooting reporting systems and staffing our dealer reporting help

desk. "I am really excited about modernizing our fishery dependent data collection and permitting processes, which will strengthen the data used to support science and management decisions, and our continuing effort to involve the fishing industry in designing these systems," said David Gouveia the APSD director.

The major priority of APSD recently and over the next several years is to update and improve our data systems. This includes increasing the use of electronic vessel trip reporting applications (eVTR) in anticipation of implementation of the recent actions by the Mid-Atlantic and New England fishery management councils. These actions, if approved, would require eVTRs in commercial fisheries as they are in the for-hire and recreational tilefish fisheries. Port agents will continue to provide information on approved eVTR systems and assistance on GARFO's applications.

The expanded role of Port Agents will also include increased assistance with permit applications and our web system, Fish Online. Earlier this year GARFO

rolled out an enhancement to Fish Online that allows vessel owners and seafood dealers to renew their permits on-line and to initiate an application for new permits. As part of this, we are updating the way permit holders and others create new accounts and login to their existing accounts. Through this update, we are moving to usernames and passwords. This will make it easier for users to set up and maintain their own accounts, and will enable fleet and sector managers to see all of their vessels' information.

APSD staff work closely with vessel operators and seafood dealers to discuss problems with the data they have submitted. These are generally small issues and are quickly resolved. However, occasionally the issue is more complex requiring a detailed discussion with the industry member. Through this contact, APSD and industry develop better working relationships and gain a better understanding of the problems that can arise with data reporting. Port Agents and APSD are excited about this new expanded partnership and the opportunity to assist the fishing industry to resolve data problems more quickly and efficiently.

Contact information for APSD

- General number: (978) 281-9264
- Permits office: (978) 282-8438, nmfs.gar.permits@noaa.gov
- Dealer electronic reporting help desk: (978) 281-9212
- General vessel trip reporting: (978) 281-9246
- Data corrections: (978) 675-2160
- eVTR: Lindsey Bergmann, (978) 282-8418 or Jim St.Cyr, (978) 281-9369
- Fish-Online app help desk: (978) 281-9188, nmfs.gar.helpdesk@noaa.gov
- Paper vessel trip reports: (978) 281-9157

COVERAGE AREA	PORT AGENT	PHONE	EMAIL
ME/NH/No. MA	Pam Thames	207-780-3322	pam.thames@noaa.gov
So. MA	Bill Duffy	508-717-0210	william.duffy@noaa.gov
RI/CT	Walter Anoushian	401-783-7797	walter.anoushian@noaa.gov
NY	Victor Vecchio	631-324-3569	victor.vecchio@noaa.gov
No. NJ / PA	Joanne Pellegrino	978-609-7980	joanne.pellegrino@noaa.gov
So. NJ/DE/MD	Josh O'Connor	609-646-7543	joshua.o'connor@noaa.gov
VA/NC	Steve Ellis	757-723-3369	steven.ellis@noaa.gov



Industry vs Diadromy: The Story of Migratory Fish in the Merrimack River

New England is known for its thousands of miles of rivers and streams, many of them dotted with historic mills and dams. Those dams make it difficult for fish to reach upstream spawning habitat, which causes their populations to shrink. NOAA Fisheries is working with partners to address or remove those dams, giving fish a chance to rebound.

For the Merrimack River in New England, the largest number of adult shad and river herring comes to the river during the spring. This timing is important for fish-eating predators such as eagles, ospreys, otters, and many others who often rely on these fish to feed their own young. When the young fish and surviving adults swim back to the ocean, they play a crucial role in the marine food web as both predator and prey.

Prior to European colonization of New England, the Merrimack River and tributaries supported staggering populations of diadromous fish. These large numbers of fish travelling inland, some as far as several hundred miles, provided fisheries for Native Americans. Later, they supported the first Colonial settlers to the region. Fish preserved with salt provided nutrients when other food was scarce during the harsh New England winters.

People were so reliant upon the seasonal abundance of river herring, shad, and salmon that preserved fish became a form of currency used for trading and settling debts. Despite heavy fishing, it seemed as though this resource could not be depleted.

As the Industrial Revolution began in America in the late 1700s and early 1800s, the Merrimack River watershed saw the construction of many dams. Spurred by the need for power to drive the belts, gears, and wheels of industry, dams became

a widespread and common sight. By the mid-1800s, developers had erected several dams on the Merrimack River.

In the midst of all of this construction and industrial progress, people began to notice something was missing. Unable to access many of their historic spawning grounds to reproduce, stocks of salmon, shad, and river herring dwindled. Construction of The Great Stone Dam concluded in 1848, creating a complete barrier for fish just 30 miles from the Atlantic Ocean in Lawrence, Massachusetts. This dam cut off access to more than 95 percent of historic diadromous fish habitat, effectively eliminating Atlantic salmon from the watershed by 1850. Shad and river herring populations were also heavily impacted, but were able to avoid a complete population collapse. This was due to their ability to spawn in a few small tributaries and areas of the river below the Great Stone Dam. Nevertheless, from an ecological standpoint, the historic runs of fish that had once existed in the Merrimack River were gone.

Today, with more than 3,000 barriers in the watershed, habitat connectivity remains the biggest challenge facing the restoration of diadromous fish. Many of the large dams that originally provided power for mills have since been fitted with powerhouses containing modern turbines that generate clean energy. We want to balance the restoration of diadromous fish with the need for sustainable energy production. NOAA Fisheries and our partner agencies engage with

dam owners to ensure effective fish passage is maintained at these facilities.

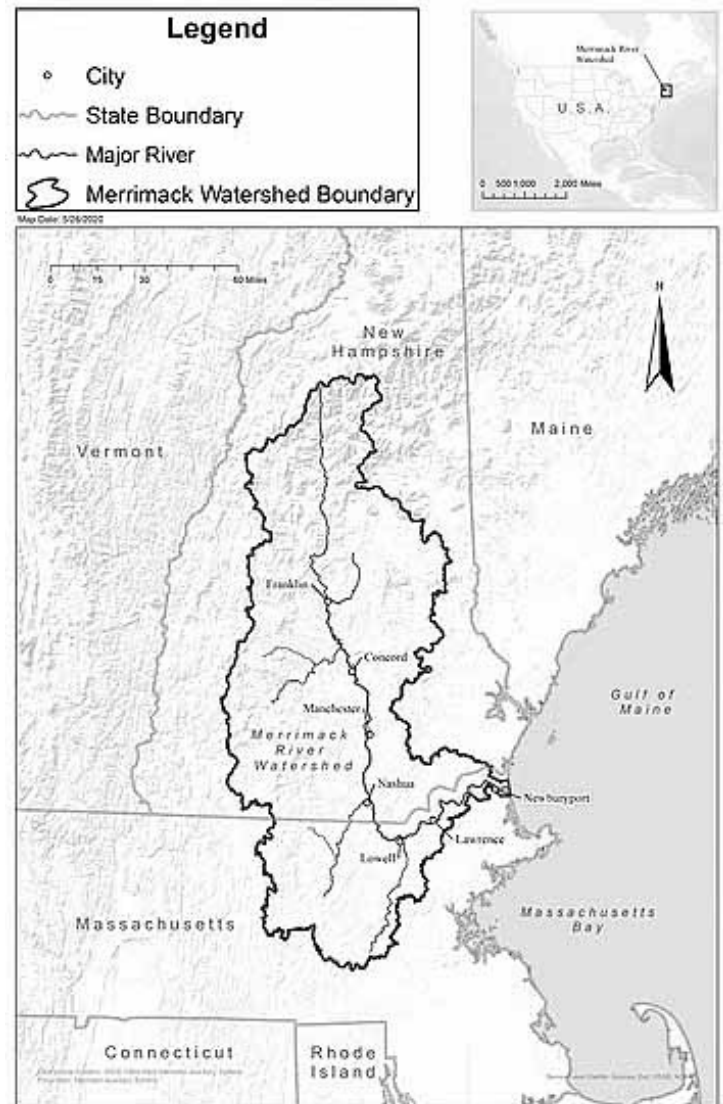
Fish passage facilities are now in place at the first three dams on the Merrimack, as well as dams on several major tributaries including the Nashua and Concord Rivers. We also work with owners of inactive dams to remove them where possible. Through this process, we have removed several dams—opening up dozens of miles of diadromous fish habitat that had been inaccessible for more than 200 years.

Although there is more to do, all of these efforts have resulted in greatly improved abundance for shad and river herring. There was a return of almost 450,000 adult river herring in 2018, one of the best recorded in recent years. We continue to focus on restoring habitat connectivity and helping diadromous fish populations reach their full potential, enhancing biological integrity, and supporting a healthy coastal ecosystem.



NOAA Fisheries photo

Centennial Island Dam fish ladder on the Concord River - a major tributary of the Merrimack.



Map of the Merrimack River Watershed showing the mainstem, major tributaries, and associated cities in New Hampshire and Massachusetts