



Cooperative Bottom Longline Survey Data Useful for Up to Nine Stock Assessments

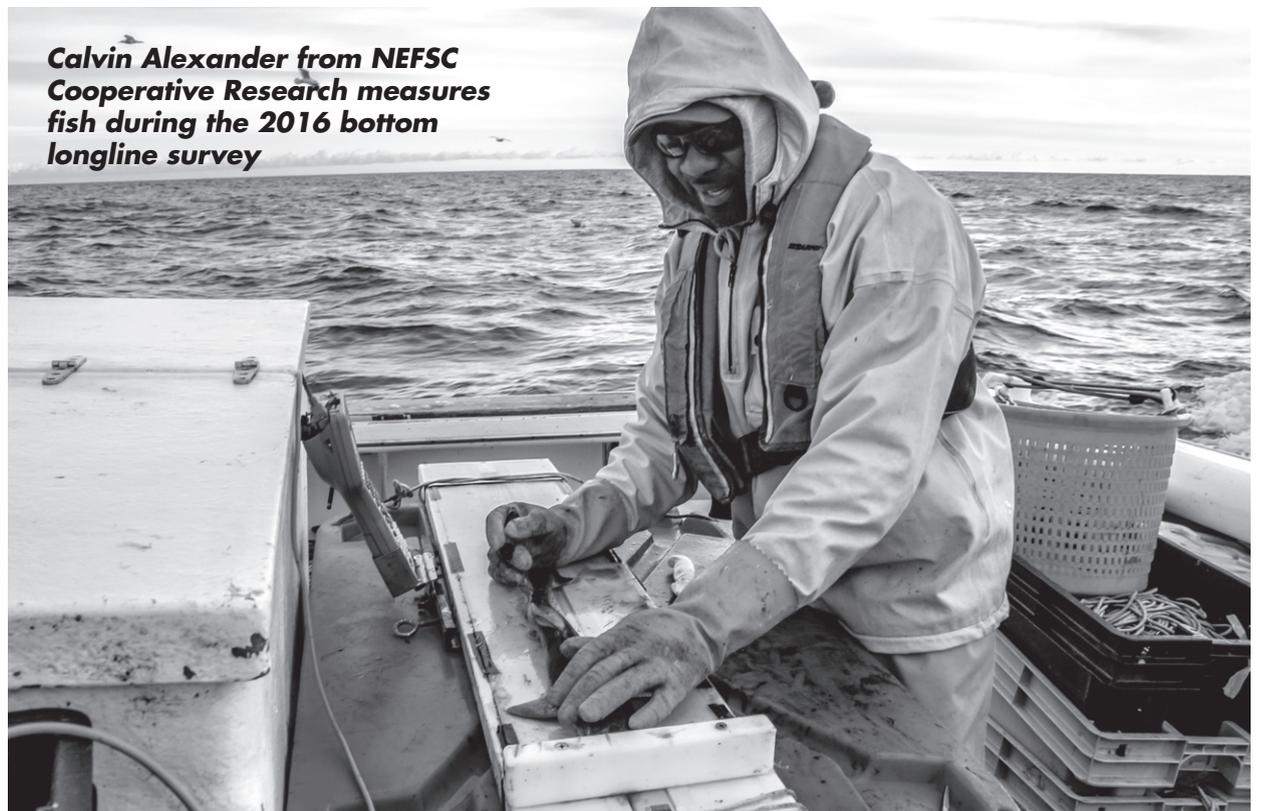
Some fishing industry constituents have expressed concern that a lack of hard-bottom sampling in the Northeast Fisheries Science Center (NEFSC) multispecies bottom trawl survey could hamper assessments for several economically important Gulf of Maine stocks that use complex rocky habitat, including Atlantic cod, haddock, and white hake. Thus, in 2013, the NEFSC's Cooperative Research Branch obtained funds to pilot a bottom longline survey to address this issue, and the survey has now completed three full years of sampling in the western and central Gulf of Maine. The major objectives of this survey are to determine the make-up of species in these rocky habitats, and to enhance the biological data on seven 'data poor' species, for which little information is currently available. Four of these species are also NOAA 'species of concern' under the Endangered Species Act.

Survey Methods

The NEFSC is working with two commercial fishing vessels from Scituate and Barnstable, MA, to conduct the longline survey. The survey area is based on a review of federal trawl survey catches to identify specific areas that contain the greatest overlapping distribution of the species of interest, such as cusk, Atlantic cod, thorny skate, and white hake. Sampling is also done during the same timeframes in the spring and fall that the NMFS trawl vessel is sampling similar areas in the Gulf of Maine.

Six of the trawl survey sampling strata areas were chosen, and the depth/area strata were classified as 'rough' or 'smooth' bottom types. Each fall and spring, 45 random stations are chosen within the sampling area. Of these stations, approximately 70% are on rough bottom, and 30% are on smooth bottom. At each sampling site, the captains work within a 1-3 nautical mile grid to ensure that the survey gear is set on the desired bottom type. The smooth bottom sets are intended to show what longline gear catches in the areas where the NMFS trawl survey vessel is sampling, to see if both gear types are catching similar proportions of the same species. The longline sets on rough or rocky bottom shows what the trawl survey may be missing because it cannot sample in those habitats.

The survey captains have helped design procedures to maximize gear efficiency and create consistency given the variations in tidal speeds at sample sites. For example, the longline gear is deployed approximately one hour prior to slack tide to standardize the set relative to the tide. During the 2016 survey, site-specific tidal modeling was provided by NEFSC oceanographers to help the captains improve standardized gear setting. A temperature-depth probe is mounted on the anchors at each end of the bottom longline gear, and a Seahorse Tilt Current Meter is clipped on the line near each anchor. This meter measures near-bottom velocities of the current, which



Calvin Alexander from NEFSC Cooperative Research measures fish during the 2016 bottom longline survey

is a unique way to measure water flow over the longline gear. It also provides a potential indicator for the bait plume size, which would help estimate the 'area fished' by the longline gear. While the gear is soaking and if conditions permit, a Go-Pro camera set-up is lowered to the bottom for 5-10 minutes to observe and verify the bottom type at each station.

The bottom longline gear deployed in this survey is one nautical mile in length, about the distance traveled by one pass of the federal trawl survey gear. Each hook is baited with frozen Argentine squid, which was recommended by participating captains due to its high oil content that attracts a wide variety of fish species.

Data Collection and Use

At each station, the total catch weight and individual fish length measurements are recorded. For select species and sizes, additional biological data and samples are collected including sex, maturity stage, weight, gonad and liver weight, and age. Any tagged fish or sharks caught are also recorded, and some additional sharks and skates have been tagged.

The 34 species that have been caught include seven 'data-poor' species, of which four (Atlantic wolffish, Atlantic halibut, cusk, and thorny skate) are NOAA species of concern, with cusk and thorny skate being NOAA 'candidate' species under Endangered Species Act status review.

Seventeen of the species are considered 'data-rich' species, seven of which are being caught with sufficient abundance for the data to help improve stock assessments. These include cod, haddock, little skate, pollock, red hake, spiny dogfish, and white hake.

For white hake, the longline survey is also catching slightly larger fish than those caught by the trawl survey, which could improve the biomass estimate used in the assessment for that species. The area biomass estimates between the longline and trawl surveys can also be compared to explore differences in the catchability/availability of specific species for each type of gear.

Improvements for future surveys

Funding for the bottom longline survey has been secured through 2017. As a highly collaborative effort, given preliminary results and the survey captains' insights about the effectiveness of longline gear on soft bottom, sampling of smooth stations may be modified in 2017, which would allow rocky bottom sampling to be expanded. Bottom type designation may also be improved by using trawl survey multi-beam sonar data that would provide finer-scale habitat designations.

For more information or questions about this survey, please contact Dave McElroy at dave.mcelroy@noaa.gov or Loretta O'Brien at loretta.o'brien@noaa.gov

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Olivia Rugo • Managing Editor • 978-675-2167 • olivia.rugo@noaa.gov

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Surfclam and Ocean Quahog ITQ Cost Recovery Starts in 2017

This year marks the start of cost recovery for the Atlantic surfclam and ocean quahog individual transferable quota (ITQ) fisheries. The Magnuson-Stevens Act requires us to collect the “actual costs directly related to the management, data collection, and enforcement” of any limited access privilege program (LAPP), such as the surfclam and ocean quahog ITQ. We approved the Mid-Atlantic Council’s Amendment 17 to the Atlantic Surfclam and Ocean Quahog Fishery Management Plan to comply with this provision of the Act. The final rule was published on June 15, 2016.

This change raises several questions:

What happens next?

In March of 2017, we will announce new fees for each surfclam or ocean quahog cage tag that is used to land clams this year. The fees for surfclam tags and ocean quahog tags will be slightly different. At the end of 2017, we will calculate a total bill for each ITQ quota shareholder based on how many of their initial allocation of cage tags were used to land surfclams and ocean quahogs. We will issue these bills in March 2018.

Who will need to pay?

Anyone who holds surfclam or ocean quahog ITQ quota share. If you are assigned a range of cage tag numbers at the start of 2017, you could receive a bill if any of those tag numbers initially assigned to you are used to land surfclams or ocean quahogs during the year.

What if I sell my quota share or lease the tags?

If you are allocated surfclam or ocean quahog cage tags at the start of the fishing year, you will be responsible for any cost recovery fee that results if those tags are used to land clams at any time during the year. This applies even if you lease the tags or permanently transfer your quota share allocation to someone else.

What if I have ITQ quota share for both surfclam and ocean quahog?

You will receive separate bills for the two fisheries. While we manage the two species together, the fisheries operate independently, and we will treat them separately for cost recovery.

When will I need to pay?

Bills will be issued in March 2018, based on the

number of cage tags used during 2017. The bills will contain instructions for submitting payments through our Fish Online website.

Don't we already pay a fee for cage tags?

The current charge is to purchase the physical tags from the tag vendor. That cost will continue and will not be affected by this action.

What if a bank technically holds the quota share as collateral on a loan?

If a bank or other lender is the ITQ permit holder of record and leases cage tags to the borrower each year to use, the bank/lender will receive the bill based on how many of those cage tags get used. However, the bank/lender may pass the fee along to the borrower. If you are in a situation like this, you may wish to talk with your lender about how they plan to handle this fee.

We are available to answer any additional questions. Call our Sustainable Fisheries Division at (978) 281-9315 for more information about surfclam and ocean quahog cost recovery.

Collaborative Efforts Make Electronic Reporting Available in the Surfclam and Ocean Quahog Fisheries

Staff from our Northeast Fisheries Science Center (NEFSC) are working with a number of partners to make electronic trip reporting (eVTR) available for the surfclam and ocean quahog fisheries. Collaborative partners include the NEFSC Cooperative Research Branch, NEFSC Data Management Services Division, Pacific States Marine Fisheries Commission, Rutgers University, National Fisheries Institute, and North Atlantic Clam Association. Numerous surf clam and ocean quahog fishermen provided input into the process and are now participating in this voluntary program.

A one-time funding opportunity from the Pacific States Fisheries Commission to expand electronic reporting in Northeast and Mid-Atlantic fisheries supported this collaborative effort to develop a new eVTR logbook for the surfclam and quahog fisheries. Called eClams (Electronic Clam Logbook and Account Management Software), fishermen use this software to electronically submit all of the information that would be recorded on the standard paper Fishing Trip Report for shellfish and clams. When a vessel returns from sea, land-based communication services such as WiFi are used to transmit the electronic data to us.

This process facilitates the rapid transmission of fishery-dependent data and minimizes common



Chris Sarro from NEFSC Cooperative Research helps clam harvesters learn to use eCLAMS electronic reporting software.

problems such as transcription errors and illegible handwriting that sometimes occur with paper Trip Reports. Electronic reporting benefits harvesters and fleet managers by providing a faster and more accurate way of reporting, and increases the speed with which they can view trip data and calculate remaining quota. Necessary data corrections can also be made in a more timely manner.

In May 2015, NEFSC Cooperative Research staff and shellfish harvesters began testing eCLAMS on several vessels in New Bedford, MA and Atlantic City, NJ. After receiving positive industry feedback, the NEFSC began installing the software on clam vessels along the coast from New Bedford, MA to Ocean City, MD. Most of these captains chose to use eClams to report their fishing activity.

During the initial stages of the project, grant funds were used to provide industry members with laptop computers, to cover data transmission costs, and to compensate fishermen for attending on-site training. This funding also supported the installation of several dockside WiFi hubs to facilitate eVTR transmissions when participating fishermen are in port.

So far, eClams has been installed on thirty-five shellfish vessels, and we have received more than seven hundred electronic reports for the clam fishery. The NEFSC is continuing to make improvements to the software based on the needs and preferences of industry users. If you are interested in using eClams aboard your vessel, it is available at no cost, and Cooperative Research staff are available to assist with installation and ongoing technical support.

For more information, contact NEFSC staff Kevin Jackson at kevin.g.jackson@noaa.gov or Josh Moser at joshua.moser@noaa.gov.

Atlantic Large Whale Take Reduction Plan: Massachusetts Restricted Area Reminder

This is a reminder that the Massachusetts Restricted Area will be closed to all trap/pot fishing from February 1- April 30.

The Massachusetts Restricted Area is bounded by the following points surrounding the shoreline of Cape Cod, Massachusetts: 42°12'/70°44', 42°12'/70°30', 42°30'/70°30', 42°30'/69°45', 41°56.5'/69°45', 41°21.5'/69°16', 41°15.3'/69°57.9', 41°20.3'/70°00', 41°40.2'/70°00'.

For more information on this and other Take Reduction Plan requirements, please visit the Atlantic Large Whale Take Reduction Plan website:

www.greateratlantic.fisheries.noaa.gov/whaletrp
You can also contact one of our Gear Team Liaisons:
Northeast Fisheries Liaison: John Higgins, (978) 771-3669, John.Higgins@noaa.gov
Mid/South Atlantic Fisheries Liaison: Glenn Salvador, (757) 414-0128, Glenn.Salvador@noaa.gov

Marine Mammal Authorization Program

The Marine Mammal Authorization Program (MMAP) is a required commercial fishermen's registration program. It provides certain exemptions from the Marine Mammal Protection Act's prohibition on the accidental taking of non-endangered/threatened marine mammals during commercial fishing activities. In the Greater Atlantic Region, fishermen are automatically registered for the year if they have a valid state/federal

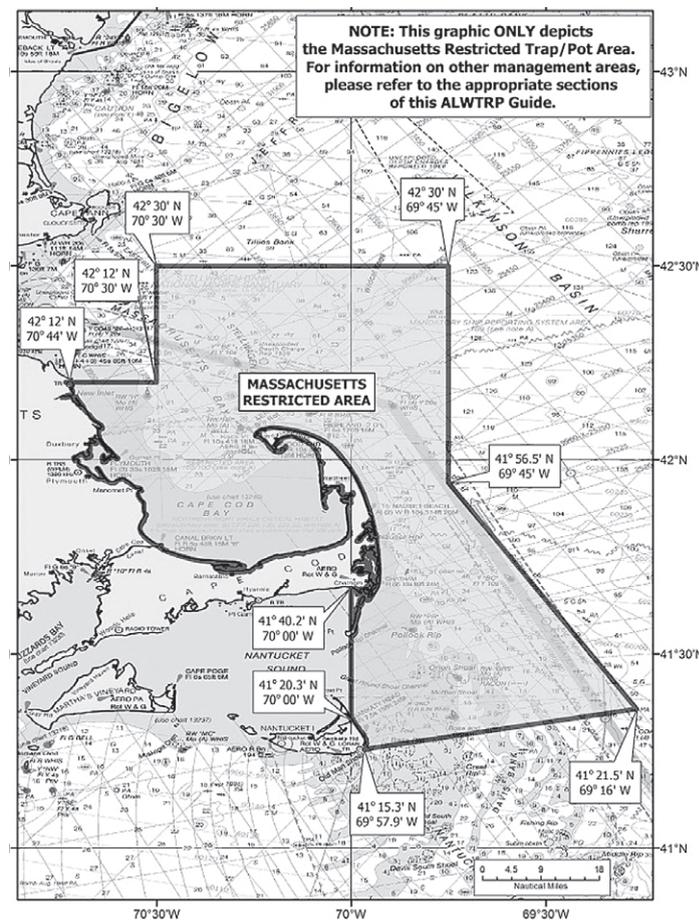
permit license as of January 1 each year. If you participate in the fisheries listed below, you should receive your certificate in December.

This program applies to all fishermen who have federal and state permits to use any of these commercial gear types:

- Gillnets;
- Pelagic long lines;
- Trap/pots;
- Mid water or bottom trawls (including pair trawl and flynets);
- Menhaden purse seines (mid-Atlantic and Gulf of Mexico);
- Long haul seines (NC);
- Roe mullet stop nets (NC);
- Pound nets (VA); or
- Any high seas fisheries targeting Atlantic highly migratory species (only outside 200 nautical miles).

Under the MMAP, you must:

- Carry an authorization certificate during fishing activities (certificate is valid January 1- December 31 of each calendar year);
- Carry an observer if requested;
- Comply with applicable marine mammal protection measures and Take Reduction Plans; and
- Report any marine mammal injury or death caused



by fishing operation within 48 hours of the interaction using the Marine Mammal Mortality/Injury Reporting form (available on the MMAP website or by calling (978) 281-9328). Reports must be filed even if an observer was onboard during the time of the incident.

If you participate in an applicable fishery and have not received your certificate in the mail, please visit the MMAP website: www.greateratlantic.fisheries.noaa.gov/mmap to download a certificate or contact (978) 281-9328 to have one mailed to you.

For questions regarding whether or not this program applies to you, please contact one of our Gear Team Liaisons:

Northeast Fisheries Liaison: John Higgins, (978) 771-3669, John.Higgins@noaa.gov
Mid/South Atlantic Fisheries Liaison: Glenn Salvador, (757) 414-0128, Glenn.Salvador@noaa.gov

Additional Stability and Flexibility for Groundfish Sectors

Each year, NOAA Fisheries reviews applications submitted by companies interested in providing at-sea monitoring (ASM) services to groundfish sectors. This year, we transitioned from approving companies for one year to approving companies for two years. The goal is to give sectors additional stability in their operations and increased flexibility in negotiating contracts with the monitoring companies. Commercial fishing is an unpredictable business, but we hope this change will give sectors greater ability to plan their operations into the future.

We have approved the five monitoring companies

listed below to provide their services in fishing years 2017 and 2018. Sectors may employ any of these companies to provide ASM services through April 30, 2019.

Approved providers must meet performance requirements to maintain their eligibility to provide ASM services. There will be another opportunity in 2017 for monitoring companies to apply for approval to provide services in fishing year 2018.

For more information, contact Mark Grant, Sustainable Fisheries Division, at (978) 281-9145 or email him at Mark.Grant@noaa.gov

PROVIDER	ADDRESS	PHONE	WEBSITE
ACD USA Ltd.	1801 Hollis St Suite 1220 Halifax, Nova Scotia Canada B3S 3N4	(902) 749-5107	www.atlanticcatchdata.ca
A.I.S., Inc.	14 Barnabas Rd P.O. Box 1009 Marion, MA 02738	(508) 990-9054	www.aisobservers.com
East West Technical Services, LLC	1415 Corona Ln Vero Beach, FL 32963	(860) 910-4957	www.ewts.com
Fathom Research, LLC	1213 Purchase St Suite 302 New Bedford, MA 02740	(508) 990-0997	www.fathomresearchllc.com
MRAG Americas, Inc.	1810 Shadetree Circle Anchorage, AK 99502	(978) 768-3880	www.mragamericas.com

Correction: November Windowpane Accountability Measures print article

There is a significant error in the Windowpane Accountability Measures article on page 2 of the November 2016 PRINT version of the NOAA Navigator. It says "...therefore scallop vessels cannot use dredge gear in the area west of 71 [deg] W. longitude for the month of February 2018." This is incorrect. Rather, **vessels must use dredge gear (i.e., cannot use trawl gear to fish for scallops) and must meet certain ring configuration and twine top hanging ratio requirements for the month of February 2018.** This correction was made to the online version of the November 2016 issue. For more information, contact Aja Szumylo, Sustainable Fisheries Division, at (978) 281-9195 or email her at Aja.Szumylo@noaa.gov



Deep-Sea Coral Protection Area Established in the Mid-Atlantic

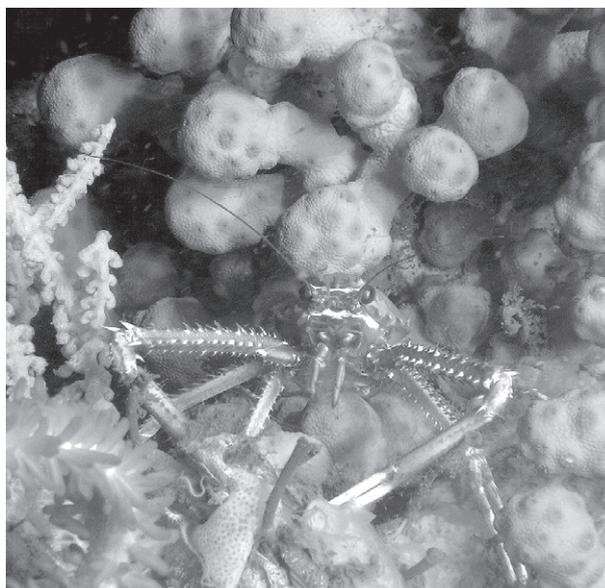
When you think about corals, do you picture sunlit coral reefs in crystal-clear tropical water teeming with schools of brightly colored fish? Did you know that corals also live deep at the bottom of the ocean where there is no light, it is very cold, and there is very little food to sustain life?

Like their shallow-water counterparts, these deep-sea corals are very fragile and can be easily damaged or destroyed. Unlike shallow-water corals, deep-sea corals grow extremely slowly, so it can take hundreds or even thousands of years for a coral colony to be replaced. NOAA Fisheries Habitat Conservation Division has been working with other NOAA partners, members of the fishing industry and environmental communities, as well as the two fishery management councils in the region for several years to protect these valuable organisms.

As a result of this work, on Wednesday, December 14, NOAA Fisheries and the Mid-Atlantic Fishery Management Council announced the designation of a large offshore protected area for deep-sea corals in the Mid-Atlantic. The protected area goes into effect on January 13, 2017. This protected area is being implemented as an amendment to the Mackerel, Squid, Butterfish Fishery Management Plan to protect deep sea corals from the impacts of bottom-tending fishing gear. Among the Council's management plans, the one that directly governs major offshore trawl fisheries operating in the area is the Mackerel, Squid, Butterfish FMP. However, the action implements equal restrictions on all bottom-tending gear.

Within the protected area, commercial fishermen are prohibited from using most types of bottom-tending fishing gear such as trawls, dredges, bottom longlines, and traps. The rule does not apply to recreational fishing, commercial gear types that do not contact the sea floor, or the American lobster trap fishery. An exemption is also provided for the deep sea red crab commercial trap fishery. Vessels may transit through the area if fishing gear is stowed and not available for immediate use.

Under the Magnuson-Stevens Act (MSA), regional fishery management councils have the authority to designate zones where fishing may be restricted to



Squat lobster rests among a bubblegum coral, a red tree coral, and a sponge. Image courtesy of Deepwater Canyons 2013 - Pathways to the Abyss, NOAA-OER/BOEM/USGS.

protect deep sea corals. Although corals have been protected as essential fish habitat, the Mid-Atlantic Fishery Management Council is the first of the eight U.S. regional fishery management councils to use this new discretionary authority.

The Council named the protected area in honor of the late Senator Frank Lautenberg, a five-term United States senator from New Jersey who was responsible for several important pieces of ocean conservation legislation, including the MSA provisions allowing for deep sea coral protections. The Frank R. Lautenberg Deep Sea Coral Protection Area encompasses areas of known or highly likely coral presence in underwater canyons or slope areas along the continental shelf edge, as well as deeper areas where the presence of corals is uncertain, but where little or no fishing effort currently occurs. In total, the coral zone encompasses more than 38,000 square miles of federal waters off the Mid-Atlantic coast.

Development of the deep sea coral protection area was informed by several recent scientific research efforts undertaken by the National Oceanic and Atmospheric Administration and the Bureau of Ocean Energy Management, including several deep sea surveys and the development of a predictive deep sea coral habitat suitability model. Using this information, members of the Council's advisory panels, deep sea coral experts, fishing industry members, and other stakeholders cooperatively reviewed this information to



Nudibranch and bobtail squid. Image courtesy of NOAA Okeanos Explorer Program, Our Deepwater Backyard: Exploring Atlantic Canyons and Seamounts 2014.

Below, Batstar next to a colony of deep-sea octocoral and sponges. Image courtesy of NOAA Okeanos Explorer Program, Our Deepwater Backyard: Exploring Atlantic Canyons and Seamounts.



Orange and yellow coral colonies in Nygren Canyon at a depth of 900 meters. Credit: NOAA Cup corals (greatly enlarged). Credit: NOAA



identify the landward boundaries for the protected area.

"This is a great story of regional collaboration among the fishing industry, the Mid-Atlantic Council, the research community, and environmental organizations to protect what we all agree is a valuable ecological resource," said John Bullard, Regional Administrator for the Greater Atlantic Regional Fisheries Office.

For more information, contact our Sustainable Fisheries Division at (978) 281-9315.

