



The NOAA FISHERIES NAVIGATOR

10 Years of Hooks & Science: A Celebration of Collaboration

Ten years of fishing bottom longlines in the Gulf of Maine has revealed valuable information for scientists and fishermen alike. The Northeast Fisheries Science Center's Gulf of Maine Bottom Longline Survey has shed light on everything from modeling impacts of climate change on thorny skate to how environmental conditions impact bait retention on hook gear. This collaboration showcases a long term model of what can be achieved when scientists and fishermen work together.

Captain Phil Lynch of the *F/V Mary Elizabeth* and Captain Eric Hesse on the *F/V Tenacious II* have together hauled nearly a million hooks for science; their contributions have led to the survey's success from initial planning to bringing every single fish over the rail.

Besides facing challenges like at-sea breakdowns and extra bodies in tight quarters, the fishermen and crews gain firsthand understanding and a personal stake in how surveys are conducted that contribute to the stock assessment process and, ultimately, the management of those stocks.

Captain Eric Hesse says "It's important to me as a fisherman that the science is accurate because without the science there is no good management. The longline survey is a great marriage of science and the fleet."

The Gulf of Maine Bottom Longline Survey originated from fishing industry concerns that the Science Center's Bottom Trawl Survey wasn't

effective in sampling rocky bottom. In 2014, scientists from the Population Dynamics Branch, Cooperative Research Branch, and captains Phil and Eric collaborated to fill potential data gaps in those rocky areas with the Bottom Longline Survey.

Designed to complement the Bottom Trawl Survey data and focusing on structured bottom habitat, the survey takes place every spring and fall onboard the two Massachusetts-based commercial fishing vessels.

Data from the survey has contributed to stock assessments of eight species, including Atlantic cod, haddock, and white hake. In addition, the survey has contributed data towards thirteen scientific publications, including research on the availability of fish to different survey gears and life history studies for Atlantic wolffish, cusk, and Atlantic halibut.

Survey lead Dr. David McElroy emphasizes that this research can directly impact fishermen and the management rules they operate. By including data from the Gulf of Maine Bottom Longline Survey in a study that modeled the impact of climate change on thorny skate, "the modeled decline in abundance of thorny skate relative to climate change was substantially less the model that includes the longline data, which now accounts for abundance relative to the preferred habitat".

In addition to the data collected from the catch, the survey has also proven valuable for other researchers who need samples from the Gulf of Maine. Data collected on the Bottom Longline Survey has

contributed to research on thorny skate distribution, movements, and habitat use and provided live specimens for public display to the Woods Hole Aquarium.

While the collaborating captains' direct contributions to the survey are invaluable, the benefits extend beyond the survey season. Captains Eric and Phil record their observations of catch and the environmental conditions at each station. Over the decade, as we revisit these stations, they can identify trends and understand fish behavior better, allowing them to refine their fishing methods, expand their knowledge of areas not previously fished, and make informed business decisions for their future success.

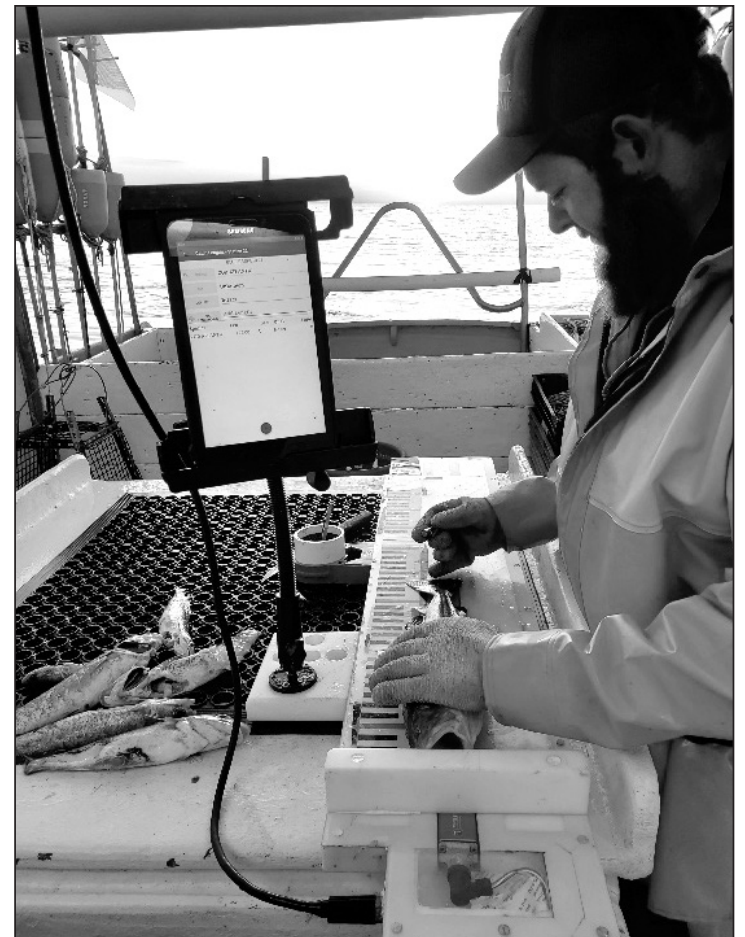
With a longer continuous record of data, the Gulf of Maine Bottom Longline Survey will be used in even more stock assessments, with pollock as the next likely candidate species for inclusion in 2024. Looking ahead, the research team is considering how wind development could affect future survey operations and how those impacts might be mitigated.

This year the Gulf of Maine Bottom Longline Survey will start the Spring survey season at the end of April. To learn more about the survey and for details on where the data is making a difference send an email to <Giovanni.Gianesin@noaa.gov>.



Fishing crews and science center staff work collaboratively to deploy sensors and cameras that collect environmental data.

Center scientists collect biological samples and measurements from the catch.



THIS SUPPLEMENT PROVIDED BY NOAA FISHERIES SERVICE'S GREATER ATLANTIC REGIONAL OFFICE

Andrea Gomez, Ph.D. • Managing Editor • (978) 675-2199 • andrea.gomez@noaa.gov



The NOAA FISHERIES NAVIGATOR

2024 On-Demand Experimental Fishery Ramps Up

An experimental fishery is underway for a second year, testing on-demand (“ropeless”) pot/trap gear off Massachusetts and Southern New England. Fishermen use the gear as part of their normal operations, then share their experience with the Northeast Fisheries Science Center’s gear research team and gear manufacturers to improve system performance.

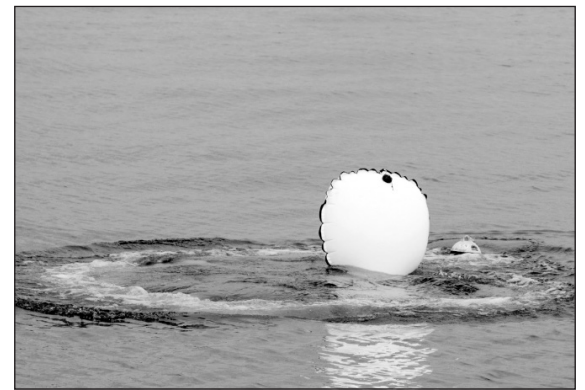
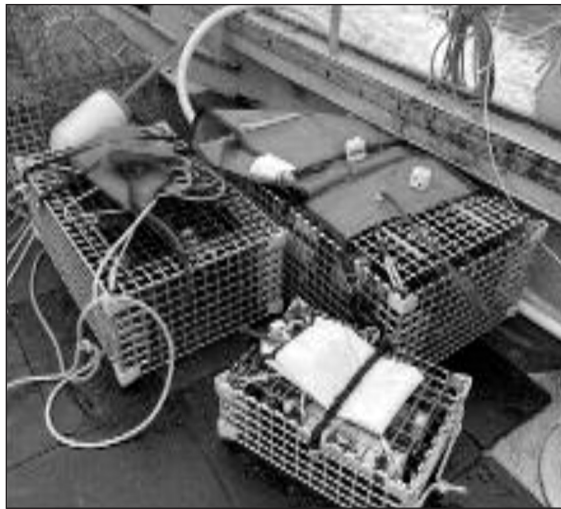
This year, testing is occurring in small portions of Massachusetts state waters as well as in federal waters. Vessels will be using fully on-demand systems—with no surface buoys—in some parts of the areas that are closed to lobster and Jonah crab fishing using static vertical lines in order to protect whales. Testing will not occur in Cape Cod Bay during this time (or later depending on whale presence).

The areas and testing periods are:

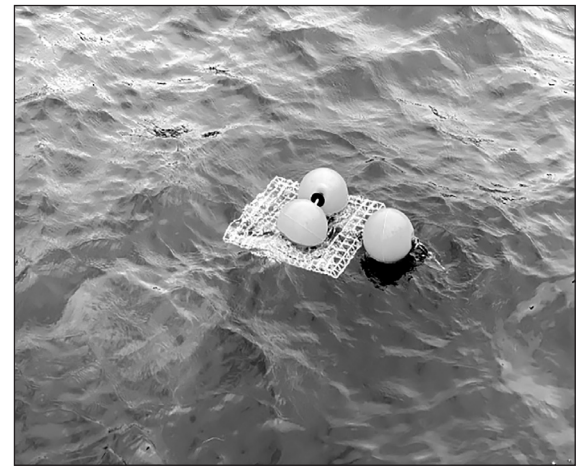
- [Island Restricted Area](#) and the [Massachusetts Restricted Area](#) from February 1 to April 30, 2024
- [Great South Channel Restricted Area](#) from April 1 to June 30, 2024

Experimental fishing with on-demand gear will also occur outside of the testing seasons within the same areas. This gear will be marked with standard surface gear on one end while testing ropeless gear on the other end.

Our gear team and participating fishermen are particularly concerned about gear conflict this winter



At left, images of inflatable lift bag systems on deck. Above and below are images of inflatable lift bag system at the surface.



While testing experimental gear, vessels will fly this flag.

and spring in the potential on-demand testing area immediately west of the Great South Channel in former Groundfish Closed Area 1. On-demand gear in that area is set northwest to southeast in trawls approximately 1.5 nautical miles in length. The buoy marked end could be on either end.

Anyone can “see” on-demand gear locations on a nautical chart using the [EdgeTech Trap Tracker app](#). It is currently available on Apple or Google Play app

stores and displays on-demand gear within 5 nautical miles of the user’s position on any smartphone or tablet.

If you do accidentally trawl up on-demand gear, don’t discard it. All on-demand gear is still in development and every system retrieved can help us learn more and improve the systems.

For more information or to return found on-demand gear, contact nec.gearlibrary@noaa.gov.

Hook and Line Survey Updates: Industry Vessels Selected

Areas developed for offshore wind farms will be difficult or impossible to survey using towed gear, such as trawls. To address this challenge, the Northeast Fisheries Science Center’s Cooperative Research Branch is piloting a hook-and-line survey that can be safely deployed in any habitat type and in close proximity to offshore wind turbines. The pilot survey is scheduled to begin in spring 2024. Our initial goals are to:

- Develop hook and line survey operations and methods
- Analyze data to evaluate gear



DNG automatic jigging machine at sea.

performance and selectivity

- Explore computer models for development of an abundance index

Crucially, the hook-and-line survey will test the feasibility of using hook and line gear to continue our data collection on fisheries populations and habitats as offshore wind energy development unfolds.

We hosted a series of workshops for commercial Hook-and-Line and for-hire charter fishermen in November 2023 to gather their input on best fishing practices for our survey. The workshops were held in the Gulf of Maine, southern

New England, and the Mid-Atlantic, where we will conduct the pilot survey.

We put out a call for industry vessels to serve as platforms for the survey. Fourteen vessels applied for the pilot survey contracts. Three were selected:

- > F/V Lady Rebecca, Newburyport, Massachusetts
- > F/V Frances, Point Judith, Rhode Island
- > F/V Rudee Mariner, Virginia Beach, Virginia

As we move forward with the pilot survey, we are committed to working with stakeholders to ensure that it is effective and can provide the best available science.

Contact: Katie Viducic katherine.viducic@noaa.gov.



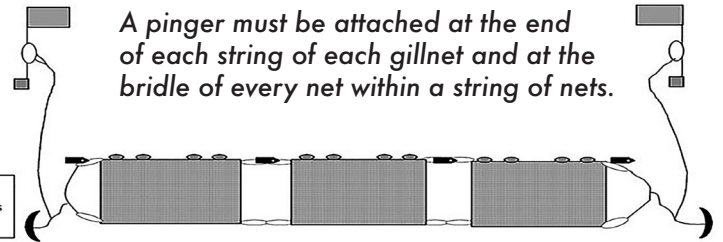
Reminder: Pinger and Other Requirements for Gillnets under the Harbor Porpoise Take Reduction Plan

Harbor porpoise takes continue to be relatively low in New England and the Mid-Atlantic, but are still above the long term goal for take reduction required under the Marine Mammal Protection Act, resulting in bycatch reduction measures in both areas. Takes are highest in the New England sink gillnet fishery, particularly in the late fall through spring.

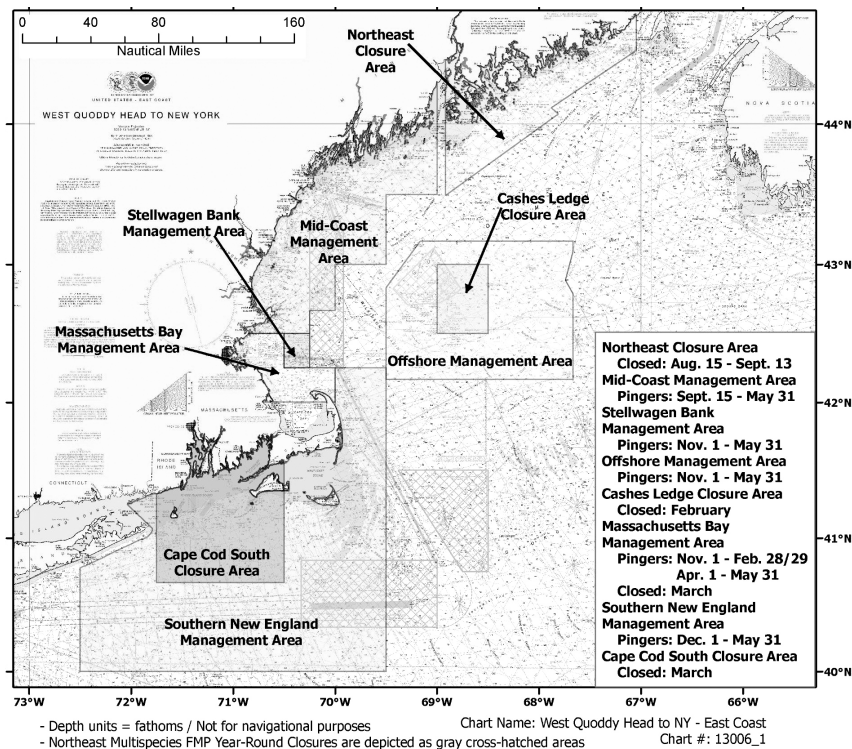
The New England fisheries regulated under the plan include the New England sink gillnet fishery, and all other gillnets capable of catching multispecies in waters from Maine through Rhode Island. The Harbor Porpoise Take Reduction Plan (Plan) requires that pingers, or acoustic alarms, be placed on nets in certain areas at certain times of the year. For more details, see the guides available on our Plan website (link below).

Areas and times where pingers are required:

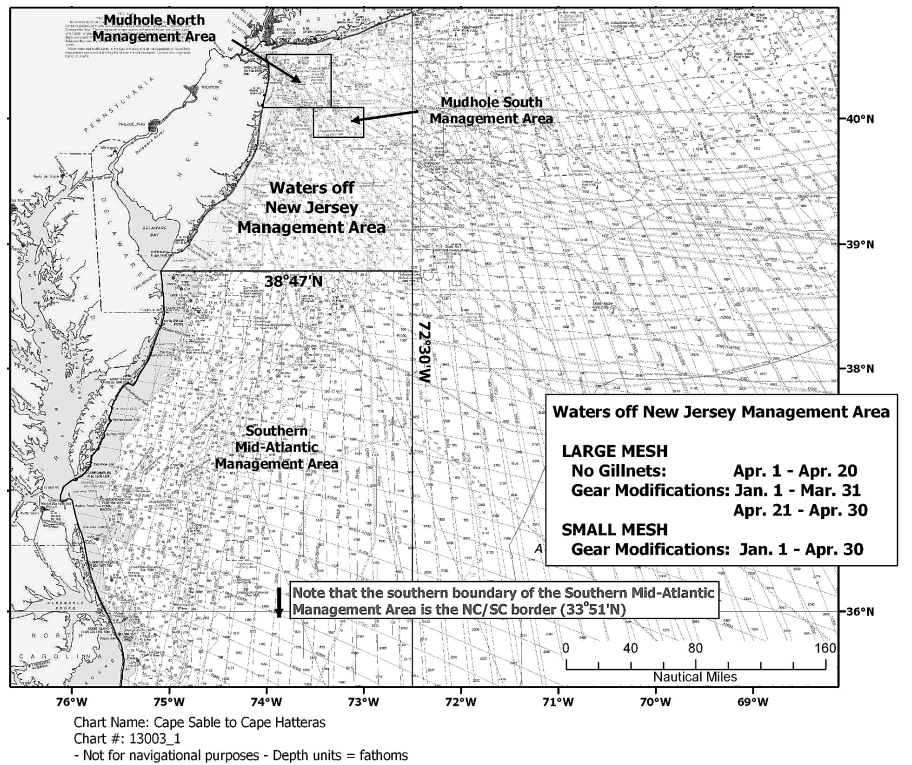
- Massachusetts Bay Management Area: April 1-May 31; November 1-February 28/29
- Midcoast Management Area: September 15-May 31
- Stellwagen Bank Management Area: November 1-May 31
- Offshore Management Area: November 1-May 31



New England Plan Management Areas



Mid-Atlantic Plan Management Areas



In order to meet the goal of the Plan, we encourage all New England gillnet fishermen to make sure that pingers are properly attached and in good working order. When used properly, pingers have proven to be very effective at reducing harbor porpoise bycatch. If you need help finding pingers or need pinger training certification (required, but does not expire) for using pingers, please contact Rob Martin, Northeast Gear Specialist: (617) 710-6322, <robert.martin@noaa.gov>.

In the Mid-Atlantic, the Plan requires area-specific gear requirements as well as seasonal areas closed to gillnets (based on mesh sizes). Closures and gear requirements can be found on the Plan website .

For more information, please visit our website: <https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/harbor-porpoise-take-reduction-plan>.

Podcast: Celebrating the Northeast Bottom Trawl Survey's 60th Anniversary

The Northeast Bottom Trawl Survey turned 60 years old in November 2023! The survey provides decades of standardized data on fisheries and ocean conditions in the Northwest Atlantic Ocean. It monitors fishery stock abundance and distribution on the continental shelf from the Scotian Shelf to Cape Lookout, North Carolina. The survey collects all kinds of data, including fish age, length, weight, sex, maturity, and food habits information. It's a powerful dataset used to inform scientists and managers.

podcast. Phil is a supervisory fishery biologist and the Bottom Trawl Survey program lead. In the podcast, he talks about how the survey is conducted, what life is like aboard the vessel, and why the long-running survey is so valuable. He also discusses some of the different aspects of the survey—catch sorting and processing, data recording, at-sea efficiency, and preserving the survey's time series. To listen to the podcast, please visit: <<https://www.fisheries.noaa.gov/podcast/60-years-science-atlantic>>.

To learn more about the fall 2023 Bottom Trawl Survey activities, please visit: <<https://www.fisheries.noaa.gov/new-england-mid-atlantic/ecosystems/2023-fall-bottom-trawl-survey-completed-northeast>>.



To celebrate this milestone anniversary, NOAA Fisheries interviewed Phil Politis for their recent Dive In with NOAA Fisheries

Paid copy, materials provided by the sponsor.



The NOAA FISHERIES NAVIGATOR

Southern New England HAPC Designation

We recently designated a Habitat Area of Particular Concern (HAPC) in and around offshore wind lease areas in southern New England, in addition to Cox Ledge. The New England Fishery Management Council (Council) recommended this HAPC designation due to concerns about the potential adverse impact on essential fish habitat (EFH) from the development of offshore wind energy projects.

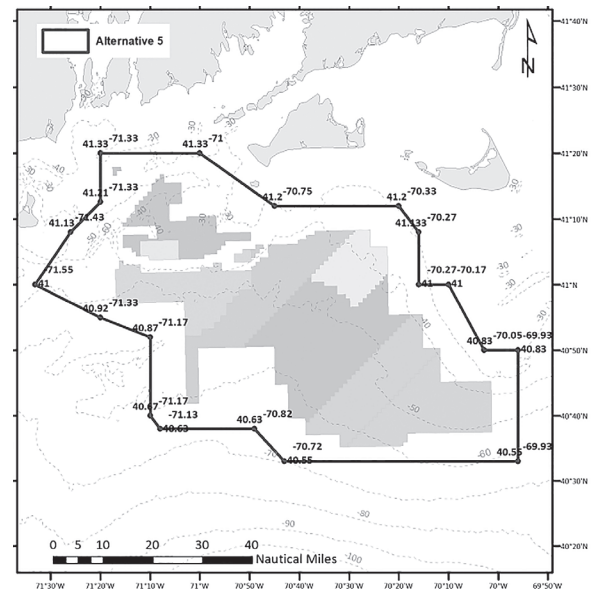
HAPCs are considered high priority areas because they are important to ecosystem function, sensitive to human activities, stressed by development, and/or are rare. They can cover a specific location (a bank or ledge, spawning location) or cover habitat that is found at many locations (e.g., coral, nearshore nursery areas, or pupping grounds).

HAPCs are designated through action by the regional fishery management councils and do not impose restrictions or protections on an area—they simply help to focus increased scrutiny, study, or mitigation planning compared to surrounding areas because they represent high priority areas for conservation, management, or research and are necessary for healthy ecosystems and sustainable fisheries. In the Greater Atlantic Region, HAPC have been designated for adult Atlantic salmon, juvenile Atlantic cod, summer flounder, sandbar shark, sand tiger shark and within a number of canyons and seamounts. The locations of HAPCs can be found

on the NOAA Fisheries EFH Mapper <<https://www.habitat.noaa.gov/apps/efhmapper/>>.

Designation of this HAPC places a focus on areas that are under development stresses due to increases in renewable energy development. Some wind energy projects are already approved, others are currently undergoing environmental review, and others are still within the site assessment phase. The HAPC is designated within and around wind lease areas in Southern New England, in addition to Cox Ledge, to provide a higher level of scrutiny for actions in cod spawning habitats and complex benthic habitats that serve important habitat functions to managed fish species. Complex benthic habitat provides shelter for certain species during their early life history, refuge from predators, and feeding opportunities.

NOAA Fisheries reviews and comments on federal and/or state actions that adversely affect designated EFH and HAPCs as part of the EFH consultation process, and we provide conservation recommendations to avoid, minimize, and offset the impacts. Specifically, HAPC designations underscore and emphasize the particular importance of specific locations and habitat features within more broadly designated EFH. The Southern New England HAPC will be used as a tool to concentrate effective EFH conservation recommendations on HAPC resources, and facilitate increased dialogue with Federal action agencies that propose projects in the HAPC. The final



NEFMC's Southern NE HAPC Framework

Map of the southern New England HAPC coordinates (outline) in relation to the wind lease areas (various colored polygons).

rule for the HAPC designation was published in the *Federal Register* on February 5, 2024 (89 FR 7633), and is effective March 5, 2024.

International Collaboration Improves Understanding of Tuna Populations

A team of researchers from eight countries, including three NOAA Fisheries scientists, recently published their Atlantic bluefin tuna research in the journal *Molecular Ecology*. Their findings show Atlantic bluefin tuna populations are more interconnected than previously understood. The study was led by Spain-based AZTI Technology Centre.

The study used advanced genetic analyses to further scientists' understanding of the Atlantic bluefin tuna genome. Researchers found connections among individuals from the three known bluefin tuna spawning grounds:

- Gulf of Mexico
- Slope Sea
- Mediterranean Sea

This is the first genetic study to include the recently identified third spawning ground for this species—the Slope Sea. The Slope Sea is an area off of the northeast



United States Continental Shelf. Previously, scientists thought there were eastern and western populations, spawning respectively in the Mediterranean Sea and the Gulf of Mexico.

Researchers found genetic evidence that Atlantic bluefin tuna in both the Slope Sea and Gulf of Mexico were related to the Mediterranean population. These findings add to growing evidence that Atlantic bluefin tuna populations in the different spawning grounds are more interconnected than previously understood.

International collaboration is particularly vital to studying and conserving highly migratory species like Atlantic bluefin tuna because they migrate long distances and cross international boundaries.

To learn more about this study, please visit: <<https://www.fisheries.noaa.gov/feature-story/international-collaboration-improves-understanding-tuna-populations>>.



Scallop Permit Holders Required to Use the Pre-Trip Notification System

Beginning April 1, 2024, scallop vessel owners and operators are required to notify NOAA Fisheries of their intent to fish using the Pre-Trip Notification System (PTNS) instead of the Interactive Voice Response (IVR) system.



The new process will allow vessels to enter their own notifications online using the PTNS website. Vessels will log into the PTNS website with their individual Fish Online username and password. This will be the primary means of trip notification and trip changes. Vessels can submit a notification anytime between 10 days and 48 hours before the intended trip, a decrease from the current 72-hour notification requirement.

Scallop permit holders are encouraged to visit the Scallop PTNS webpage for more details.

Questions? PTNS information, including questions about observer notification and selection, contact the PTNS Team at (855) 347-4371 or <NEFSC.PTNS@noaa.gov>.

