



NOAA Technical Memorandum NMFS-NE-302

2023 Observer Sea Days by Trip Selection System

**US DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Northeast Fisheries Science Center
Woods Hole, Massachusetts
July 2023**



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2023 Observer Sea Days by Trip Selection System

by the Northeast Fisheries Science Center

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Editorial Notes

Information Quality Act Compliance: In accordance with section 515 of Public Law 106-554, the Northeast Fisheries Science Center (NEFSC) completed both technical and policy reviews for this report. These predissemination reviews are on file at the NEFSC Editorial Office.

Species Names: The NEFSC Editorial Office's policy on the use of species names in all technical communications is generally to follow the American Fisheries Society's lists of scientific and common names for fishes, mollusks, and decapod crustaceans and to follow the Society for Marine Mammalogy's guidance on scientific and common names for marine mammals. Exceptions to this policy occur when there are subsequent compelling revisions in the classifications of species, resulting in changes in the names of species.

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LIST OF ACRONYMS AND ABBREVIATIONS

AA = access area
ASM = At-Sea Monitoring Program
CV = coefficient of variation
EFP = Exempted Fishing Permit
FMP = fishery management plan
FMO = Fisheries Monitoring and Operations Branch
ESA = Endangered Species Act
GEN = general category
HERR = Atlantic herring FMP
HER = VMS plan code for Atlantic herring
IFM = industry-funded monitoring
IFS = Industry Funded Scallop
IVR = interactive voice response
lg = large mesh
LIM = limited access category
MA = Mid-Atlantic
MAFMC = Mid-Atlantic Fishery Management Council
MMPA = Marine Mammal Protection Act
NE = New England
NEFMC = New England Fishery Management Council
NEFOP = Northeast Fisheries Observer Program
NEFSC = Northeast Fisheries Science Center
NMFS = National Marine Fisheries Service
NMS = Northeast Multispecies FMP
NOAA = National Oceanic and Atmospheric Administration
OPEN = non-access area
PTNS = Pre-Trip Notification System
SBRM = Standardized Bycatch Reporting Methodology
sm = small mesh
US = United States
VMS = Vessel Monitoring System
VTR = Vessel Trip Report
xlg = extra large mesh

EXECUTIVE SUMMARY

The Northeast Fisheries Science Center's Fisheries Monitoring and Operations (FMO) Branch currently manages 3 observer programs and 3 systems to select commercial fishing trips in the Greater Atlantic region for observer coverage. The 3 observer programs are: the Northeast Fisheries Observer Program (NEFOP), the At-Sea Monitoring (ASM) program (or Electronic Monitoring, as a monitoring option in lieu of human observers), and the Industry Funded Scallop (IFS) observer program. The 3 selection systems are: the NEFOP Sea Day Schedule selection protocols (referred to as the Sea Day Schedule that includes trip selection by phone, email, letter, Vessel Monitoring System message, or in person at the dock communication [dock intercept]), the Pre-Trip Notification System (PTNS), and an automated Interactive Voice Response system (IVR).

There are 5,630 allocated observer sea days for April 2023 through March 2024 to assess the amount and type of bycatch of fish, invertebrates, sea turtles, and marine mammals in the region. There are 2 funding source categories for the observer sea days: National Marine Fisheries Service (NMFS) funding (sea days associated with the Standardized Bycatch Reporting Methodology [SBRM] and the Marine Mammal Protection Act [MMPA] sampling designs) and industry funding (sea days associated with the Atlantic Sea Scallop fishery management plan [FMP] IFS and Northeast Multispecies [NMS] FMP ASM).

There are 3,373 SBRM NEFOP sea days, of which 2,952 sea days are apportioned to the Sea Day Schedule and 421 sea days are apportioned to the PTNS. Of the 421 SBRM NEFOP PTNS sea days, 380 sea days are assigned to fleets with NMS FMP pre-trip notification requirements and 41 sea days are assigned to fleets with the Atlantic herring (HERR) FMP pre-trip notification requirements. There are 1,696 IFS sea days assigned to the IVR for IFS fleets. There are 516 MMPA-funded sea days. Of the 516 MMPA days, 350 days are assigned for observer coverage with 55 of those days assigned to PTNS and 295 assigned to the Sea Day Schedule. There are 166 MMPA days that are not assigned as they will be days for analysis. An additional 45 Endangered Species Act (ESA)-funded sea days are apportioned to the Sea Day Schedule this year. These days will utilize the MMPA sampling design of NEFOP limited trips and are specific to the Mid-Atlantic gillnet fleet.

This document describes the methods used to identify and apportion the observer sea days among selection systems, presents the numbers of sea days by fleet and selection system, and outlines the expected observer coverage by fleet provided by the SBRM NEFOP PTNS sea days. The expected contribution of SBRM NEFOP PTNS sea days toward the FMP-specific industry-funded monitoring total combined target are approximate and derived based on previous Vessel Trip Report activity. The NMS FMP industry-funded monitoring target requirement is a combination of SBRM NEFOP sea days and ASM realized coverage. The expected observer coverage values by fleet are used to inform the initial SBRM coverage settings within PTNS at the start of a sampling program. Once a sampling program is underway, coverage settings are monitored and adjusted as needed in order to optimize sea day accomplishments.

INTRODUCTION

The Northeast Fisheries Science Center (NEFSC) Fisheries Monitoring and Operations Branch (FMO) currently manages 3 separate but related observer programs and 3 systems to select commercial fishing trips in the Greater Atlantic region (Maine to North Carolina) for observer coverage. These observer programs and selection systems support 3 sampling designs used in this region (Figure 1). Contracted or approved observer service provider companies hire and deploy observers in accordance with FMO protocols.

Under federal contract with an observer service provider, FMO manages the Northeast Fisheries Observer Program (NEFOP). NEFOP observers collect a broad range of data including information on all species by disposition (retained and discarded) that are encountered during a fishing trip as well as gear characteristics data and economic information. Biological samples are also collected in this program. NEFOP observers are deployed on commercial trips fishing in the Greater Atlantic region to meet specified annual sea day requirements, as defined by the Standardized Bycatch Reporting Methodology (SBRM) sampling design or by the Marine Mammal Protection Act (MMPA) sampling design. The MMPA design utilizes the NEFOP sampling protocols on gillnet trips that are specific to protected species, referred to as NEFOP Limited. On NEFOP Limited sampling trips the observer will record only the kept catch for all hauls on gillnet trips. All hauls on these trips will be recorded as unobserved as the observer will conduct protected species haul watches. In addition, biological sampling of the kept catch will occur on the last haul only. New funding from the National Marine Fisheries Service (NMFS) this year, in support of the Endangered Species Act (ESA) Annual Determination provision, will utilize the MMPA sampling design (i.e. NEFOP Limited) to monitor sea turtle interactions on Mid-Atlantic gillnet trips in state waters (see [Sea Turtle Observer Requirement Annual Determination](#)). The objective of the NEFOP is to monitor bycatch of all species. Coverage for this observer program is set at specified sea day levels and not as a target percent coverage. In order to select trips for NEFOP (and NEFOP Limited) coverage, FMO utilizes both the Pre-Trip Notification System (PTNS; Palmer et al. 2013) and NEFOP Sea Day Schedule selection protocols (referred to as the Sea Day Schedule; includes trip selection by phone, email, letter, Vessel Monitoring System [VMS] message, or in person communication at the dock [dock intercept]). ESA coverage will only be selected through the NEFOP Sea Day Schedule.

FMO, working with approved observer service providers, also manages the At-Sea Monitoring (ASM) program. At-sea monitors collect information on all species by disposition (retained and discarded) that are encountered during a fishing trip. Biological samples are not collected in this program. At-sea monitors are deployed on groundfish sector vessels fishing on declared Northeast Multispecies (NMS) fishery management plan (FMP) trips. The main objective of this monitoring is to verify the areas fished and the kept and discarded components of catch by species and gear type to reliably estimate overall catch by sector vessels. The NMF FMP monitoring coverage is expressed as percent coverage of eligible trips, combining both ASM and NEFOP coverage, with a target percent coverage rate set at the beginning of each fishing year. Selection for all ASM trips occurs through the PTNS. To facilitate deployment, vessel representatives are required to notify the observer program via the PTNS for NMS FMP trips a minimum of 48 hours in advance of trip sail time where they may be selected for either ASM or NEFOP coverage.

In addition, FMO, working with approved observer service providers, also manages the Industry Funded Scallop (IFS) observer program. IFS observers collect information on all species,

by disposition (retained and discarded), that are encountered during a fishing trip. Biological samples are also collected in this program. IFS observers are deployed on vessels fishing on declared Atlantic sea scallop FMP trips to meet sampling requirements specified by the IFS sampling design. The objective of the IFS program is to monitor the bycatch of finfish, to collect biological information to inform stock assessments, and to monitor any interactions of the scallop fishery with endangered or threatened species, such as sea turtles. This program also must meet the precision-based SBRM sampling requirements. The IFS observer program utilizes an automated Interactive Voice Response (IVR) system to record information on a vessel's intent to fish for scallops on a trip. To facilitate deployment, vessel representatives are required to notify the observer program 72 hours in advance of fishing.

Annually, the NEFSC determines the number of sea days required to assess the amount and type of bycatch in the Greater Atlantic region as required by the Standardized Bycatch Reporting Methodology Omnibus Amendment for all Council-led regional FMPs (NEFMC, MAFMC, NMFS 2015). This is the first year to include the full SBRM statistical analysis since 2020 because COVID-19 pandemic-related data gaps in observer data prevented the full statistical analysis in 2020 and 2021. The 2023 SBRM Annual Discard Report with Observer Sea Day Allocation (NEFSC and GARFO 2023) summarizes the number of sea days allocated to each fleet¹ to achieve a given level of precision of the discard estimates for 14 federally managed fish/invertebrate species groups and 1 sea turtle species group for the upcoming year and the funding sources to support the observer sea days. The SBRM sampling requirements are funded by the National Marine Fisheries Service (NMFS) for all fleets except scallop fleets which are funded by the scallop industry (described below). The annual discard report also summarizes the number of MMPA and ESA sea days that are allocated to New England (NE) and Mid-Atlantic (MA) gillnet fisheries to achieve a given level of precision. The MMPA sea days are allocated specifically for marine mammal bycatch estimates according to Rossman (2007). The ESA sea days are allocated to monitor for sea turtle bycatch where there has historically been minimal observer coverage and a high probability of co-occurrence. Because of sampling protocol differences, the MMPA and ESA sea days do not contribute toward SBRM or industry-funded monitoring requirements.

The Greater Atlantic Regional Fisheries Office (GARFO) and the NEFSC conduct an annual observer set-aside compensation rate analysis to set initial compensation rates for IFS fleets. The number of industry funded scallop sea days available for scallop fleets is determined by taking 1% of the total acceptable biological catch/annual catch limit set for the year. The Industry Funded Scallop Program allows the vessels an increase in landings to help defray the costs of carrying an observer (i.e., the compensation rate). The sale of the additional scallops allocated to each boat supplies the funding for the at-sea costs of observer coverage². Based upon projected landings and expected prices, the IFS program generates funds in support of discard monitoring of the scallop fleets. A compensation rate analysis was undertaken to support observer coverage of the 9 industry funded scallop fleets in the 2023 SBRM (see GARFO [scallop compensation rate webpage](#) and the [NEFSC's SBRM webpage](#)). The IFS sampling must meet the SBRM sampling requirements for scallop fleets via the observer set-aside or other scallop industry funds. The stratification used in the compensation rate analysis is specific to the scallop FMP and differs from the SBRM. Because of differences in stratification, the industry funded scallop sea

¹ The SBRM groups trips into nonoverlapping fleets with a broad stratification scheme by using 5 classification variables (geographic region based on port of departure, gear type, mesh group, access area, and trip category).

² IFS shoreside costs are funded by NMFS.

days are not allocated to individual SBRM fleets but rather to groups of SBRM fleets that correspond to the stratification used in the compensation rate analysis. The IFS sampling levels are expressed in percentages of realized trips, and the accomplished sea days are tracked to meet both SBRM and IFS requirements.

On March 16th, NMFS announced that the preliminary coverage rate for ASM would be set at 90% of all sector trips for the 2023 multispecies groundfish fishing year. NMFS has prepared a spending plan for funds appropriated by congress. The final ASM coverage target will be announced when the spending plan is approved.³ The total target ASM requirement for groundfish trips (expressed as a percentage of realized effort) can be achieved by a combination of ASM and SBRM NEFOP sea days. Where the ASM target is the percentage set by NMFS minus any NEFOP coverage.

In summary, the basis of the sampling requirements differs among NEFOP, IFS, and ASM sampling designs. The IFS has precision-based sampling requirements in order to meet the SBRM requirements. The IFS is based on selected levels of monitoring. The SBRM has a set number of required sea days (not driven by realized industry effort) while the ASM and IFS requirements are expressed as a percentage of realized trips. Unlike the IFS, the industry funded portions⁴ of the ASM monitoring requirements do not contribute toward the SBRM requirement; however, the SBRM sea days contribute toward the total industry funded target requirements (see [Northeast Multispecies monitoring webpage](#)).

The PTNS supports multiple sampling programs with different sampling designs (e.g., SBRM NEFOP and ASM). Starting May 1, 2019, SBRM NEFOP sea days have been assigned by the PTNS at levels consistent with the fleet-based coverage prescribed by the SBRM, ensuring that the levels of SBRM NEFOP coverage meet SBRM regulatory requirements. Since SBRM fleets can experience varying levels of NEFOP coverage depending on the fleet composition of sectors and random variability in SBRM coverage among vessels within a fleet, some sectors will receive more NEFOP coverage than others. Hence, vessels and sectors may require differing amounts of ASM coverage to achieve the combined (i.e. NEFOP and ASM) target coverage level.

To select fishing trips for observer⁵ coverage and track observer coverage to meet the SBRM sea days and target percentages of the IFS and ASM in fleets that can be composed of fishing trips operating under multiple FMPs, the allocated observer sea days are apportioned among the 3 selection systems (Figure 1). This document describes the methods used to identify and apportion the observer sea days among 3 selection systems and presents the numbers of observer sea days by fleet and selection system. The expected SBRM NEFOP observer coverage by fleet used in PTNS is also provided. The expected observer coverage values by fleet are used to inform the initial SBRM coverage rate settings within PTNS at the start of a sampling program. Once a sampling program is underway, coverage rates are monitored and adjusted as needed in order to optimize sea day accomplishments.

³ See the [March 16, 2023 NMFS announcement](#) for further details.

⁴ In the past, NMFS has reimbursed some or the entire industry-funded portion of the total combined ASM target requirement. Regardless of funding source, industry-funding monitoring does not contribute toward SBRM requirements. The differences in sampling designs (i.e., stratification) could result in disproportional sampling within an SBRM fleet that could result in sampling bias.

⁵ “Observer” in this document refers to either observer or at-sea monitor.

IDENTIFICATION OF FISHING TRIPS

The commercial fishing trips in the Vessel Trip Report (VTR) dataset used in the SBRM annual analysis and associated with FMPs that have pre-trip notification requirements are identified by using information in the VTR database, permit database, and the VMS declaration codes in the Allocation Management System database. Appendix Table 3 shows VTR gear codes, and Appendix Table 4 shows VMS plan codes. The operational criteria used to identify VTR trips with pre-trip notification requirements are:

- Atlantic Sea Scallop FMP's IVR requirements
 - Trips using either scallop trawl or scallop dredge (VTR gear codes "OTC," "DRS," "DTC," "DSC," and "DTS")
- Northeast Multispecies FMP's PTNS requirements
 - Trips using bottom trawl, longline, handline, fish pot, or gillnet gear, and
 - VMS plan code of "NMS";
 - VMS plan code of "MNK" and a nonsuppressed multispecies charge⁶;
 - VMS plan code of "MNK" and program code indicating a Sector or Common Pool trip.
 - Common Pool trips fishing under a Limited Access handline permit category ("HA") and Common Pool trips fishing under a small vessel exemption permit category ("C") are not subject to pre-trip notification requirements; these trips are excluded.
- Atlantic herring FMP's PTNS requirements
 - Vessel has a herring permit category of "A," "B," or "C" and trip has a VMS plan code of "HER" or "H" in program code
 - Vessel has a herring permit category of "E" and trip has a VMS plan code of "HER" or "H" in program code
 - Vessel has a herring permit category of "D" fished with midwater trawl gear (either VMS gear type of "M" [midwater trawl], or VTR gear code in ["OTM," "PTM"; midwater trawl and paired midwater trawl, respectively]), and VTR area code in statistical areas (460s, 510s, 520s, 540s, 560s)
 - Vessel has a herring permit category of "A," "B," "C," "D," or "E," and the trip has a VMS plan code of "HER" and a VMS program code of "CAR" (carrier), or vessel has an active Letter of Authorization (exemption type like "%HERRING CARRIER%")

For the Atlantic sea scallop FMP, all Limited Access and Limited Access General Category scallop trips are required to use the IVR. However, for the NMS FMP and the HERR FMP, trips with pre-trip notification requirements are identified above. The NMS FMP does not require ASM for trips associated with the Common Pool nor sector trips with ASM exemptions (i.e., ASM requirements

⁶ When a vessel declares a monkfish trip and also holds a Northeast multispecies permit, it is also charged as a multispecies trip and is subject to At-Sea Monitoring. When that vessel's multispecies "days-at-sea" balance runs out, the multispecies charge gets suppressed, and it is a "monkfish only" trip that is not subject to At-Sea Monitoring.

have been removed for a subset of the extra large mesh gillnet sector trips with low groundfish bycatch).

PARTITIONING OBSERVER SEA DAYS AMONG SELECTION SYSTEMS

SBRM and IFS Observer Sea Days

Table 1 presents the number of observer sea days allocated in a fleet or fleet group for April 2023 through March 2024 (Column A; taken from Step 12, Table 7 in NEFSC and GARFO 2023), the associated number of observed trips (Column B), and the number of VTR days and trips (Columns C and D, respectively) from July 2021 through June 2022 (the data set used in the 2023 SBRM; see Tables 2 and 3 in McAfee and Wigley 2023). The allocated observer sea days and trips can be translated into expected observer coverage (Columns E and F, respectively) by dividing the observer sea days (or trips) by the VTR sea days (or trips). The expected observer coverage percentages are provided for perspective only; they are not used for setting SBRM coverage in the current year. The expected observer coverage is historically based on the previous year's data, and because future activity is not known, the expected observer percentages are conditional.

The observer sea days are apportioned to the appropriate trip selection system based on the proportion of trips within the fleet that have FMP pre-trip notification requirements. When there is no pre-trip notification requirement, the Sea Day Schedule is used. As mentioned above, the scallop FMP pre-trip notification requirement applies to trips using scallop trawl and scallop dredge gear, a distinct set of fleets (IFS fleets) that apply only to the IFS program. Therefore, all IFS sea days in the IFS fleets are assigned to trips via the IVR system (Rows 12 and 38-45, Table 1, Column A; Table 2, Columns A and I).

The rest of the fleets (Rows 1-11, 13-37, and 46-64, Tables 1 and 2) may be composed of trips with FMP pre-trip notification requirements (NMS FMP and HERR FMP). For these fleets, the following steps are taken to apportion the allocated observer sea days (Column A) among the PTNS (Table 2, Columns J and K for NMS FMP and HERR FMP, respectively) and the Sea Day Schedule (Table 2, Column L).

- Derive the fraction of VTR activity that requires pre-trip notification within each fleet.
 - For each fleet, divide the number of VTR trips with the FMP-specific PTNS requirements (not shown in table) by the total VTR trips in the fleet (Column D, Table 1).

For example, if there are 40 VTR trips and 10 of these trips are subject to NMS FMP pre-trip notification requirements in a fleet, then the fraction of VTR activity subject to PTNS requirements is 0.25 ($10/40 = 0.25$).

- The fraction of VTR activity subject to NMS FMP pre-trip notification requirements is given in Column G (Table 2), and the fraction of VTR activity subject to the HERR FMP is given in Column H (Table 2).
- Derive the allocated observer sea days to be assigned by the selection system associated with each specific FMP with pre-trip notification requirements.

- Multiply the fraction of VTR activity subject to the FMP-specific PTNS requirements (Column G for NMS FMP; Column H for HERR FMP; Table 2) by the total number of allocated sea days within each fleet (Column A; Table 2), and round to whole days. The remaining sea days in the fleet are assigned to the Sea Day Schedule (Column L).

*For example, if there are 32 allocated SBRM observer sea days and the fraction of VTR activity subject to NMS FMP pre-trip notification is 0.25 in a fleet, then 8 (32 * 0.25) sea days, rounded to whole days, would be apportioned to the PTNS (these SBRM NEFOP sea days will contribute toward the total combined ASM target). The remaining 24 (32 - 8) sea days would be apportioned to the Sea Day Schedule.*

Table 2 presents the number of observer sea days allocated in each fleet or fleet group (Column A), the fraction of VTR activity subject to the NMS FMP pre-trip notification requirement (Column G), the fraction of VTR activity subject to the HERR FMP pre-trip notification requirement (Column H), and the number of SBRM NEFOP observer sea days for April 2023 through March 2024, by fleet and trip selection system (Columns I, J, K, and L). Throughout the year, it may be necessary to make small adjustments to the sea days between the PTNS and the Sea Day Schedule to reflect current activity within a fleet. The IFS observer sea days assigned to the IVR system is given in Column I. The SBRM NEFOP observer sea days apportioned to the PTNS that will be assigned to fleets with NMS FMP pre-trip notification requirements is given in Column J; the SBRM NEFOP sea days apportioned to the PTNS that will be assigned to fleets with HERR FMP pre-trip notification requirements is given in Column K. The SBRM NEFOP observer sea days apportioned to the Sea Day Schedule is given in Column L⁷. A total of 1,696 sea days will be assigned to selected trips via the IVR system; 421 sea days will be assigned to selected trips via the PTNS (380 sea days in fleets with NMS FMP PTNS requirements and 41 sea days in fleets with HERR FMP pre-trip notification requirements). A total of 2,952 days will be assigned to selected trips via the Sea Day Schedule (Table 2). As mentioned above, the PTNS sea days will be assigned to trips with pre-trip notification requirements, a larger set than those trips with industry-funded monitoring requirements.

The numbers of sea days apportioned to the PTNS can be translated into percentages of observer coverage, referred to as “expected” observer coverage because future realized VTR effort is not known. Expected observer coverage (in terms of percentages) is calculated by using VTR effort in the previous year. However, as mentioned previously, the expected and realized observer coverage is not used to track SBRM NEFOP sea day accomplishments because percent coverage may lead to over or under sampling of SBRM requirements. The actual amount of SBRM coverage each fleet will receive is unknown at the start of the sampling period. The expected SBRM NEFOP coverage for each fleet that contains trips with NMS FMP pre-trip notification requirement (Column M, Table 2) is derived by dividing the apportioned SBRM NEFOP PTNS sea days for NMS FMP (Column J, Table 2) by the product of the VTR activity from July 2021 through June 2022 (Column C, Table 1) and the fraction of VTR activity subject to pre-trip notification

⁷ If the sea days apportioned to SBRM NEFOP PTNS for NMS FMP (Column J) or SBRM NEFOP PTNS for HERR FMP (Column K) are fewer than the mean trip length for the fleet, then those sea days are reassigned to the Sea Day Schedule (Table 2, Column L). See Rows 14 and 32 for NMS FMP and row 5 for HERR FMP for 3 occurrences.

requirements for NMS FMP (Column G, Table 2). All expected SBRM NEFOP PTNS values are conditional upon VTR activity. See the Appendix for step through calculations for 3 selected fleets.

These same steps are taken for the HERR FMP. The expected SBRM NEFOP coverage of trips with pre-trip notification requirements for HERR FMP (Column N, Table 2) is derived by dividing the apportioned SBRM NEFOP PTNS sea days with pre-trip notification requirements (Column K, Table 2), by the product of the VTR activity (Column C, Table 1) and the fraction of VTR activity subject to pre-trip notification requirements for the HERR FMP (Column H, Table 2).

The calculations of expected coverage are made at the SBRM fleet level, not at the sector level. SBRM is not designed to specify the contribution of SBRM NEFOP sea days for FMP-specific industry-funded monitoring combined targets, which apply to only a subcomponent of SBRM fleets and a subcomponent of trips with FMP-specific pre-trip notification requirements. The expected observer coverage of SBRM NEFOP PTNS by fleet represents a simplified approximation of the SBRM NEFOP sea days contribution toward the industry-funded monitoring total combined target for NMS FMP. As mentioned above, for the NMS FMP trips with industry-funded monitoring requirements are a subset of those trips identified that have pre-trip notification requirements. The expected coverage does not exclude common pool trips and sector trips with ASM exemptions. The expected observer coverage values by fleet are used to inform the initial SBRM coverage rate settings within PTNS at the start of a sampling program. Once a sampling program is underway, coverage rates are monitored and adjusted as needed in order to optimize sea day accomplishments.

MMPA Observer Sea Days

Of the 516 MMPA days, there are 55 sea days assigned to the PTNS and 295 sea days assigned to the Sea Day Schedule. There are 166 days for analysis that are not assigned. The 55 MMPA NEFOP Limited PTNS sea days will be assigned to declared groundfish trips⁸ for the 2023 SBRM year between April 2023 and March 2024; the 295 MMPA NEFOP Limited Sea Day Schedule sea days will be assigned for the 2023 SBRM year. The fraction of industry activity subject to NMS FMP pre-trip notification requirements during the SBRM year is used to apportion the MMPA NEFOP Limited PTNS sea days among the gillnet fleets (stratified by mesh size groups). The expected observer coverage for a fleet is derived by dividing the apportioned MMPA NEFOP Limited PTNS sea days in the fleet by the past industry activity in the previous SBRM year. Of the 295 MMPA NEFOP Limited Sea Day Schedule sea days, 175 days are apportioned among gillnet fleets in the Mid-Atlantic region and 120 sea days apportioned to the New England region based on previous gillnet industry activity. Of the 175 Mid-Atlantic MMPA NEFOP Limited Sea Days, 116 are allocated to the state of Virginia stratified by geographical area and water body. Another 38 days are allocated to North Carolina stratified by geographical area, mesh size, and distance from shore. The remaining 21 days tasked to the Mid-Atlantic are allocated to New Jersey, Delaware, and North Carolina and are stratified by mesh size. In the New England region, the remaining 120 days are apportioned among gillnet fleets stratified by mesh size groups. Table 3 presents the MMPA observer sea days allocated to the gillnet fleets by selection system for April 2023 through March 2024. The expected observer coverage for gillnet fisheries that have NMS FMP pre-trip notification requirements by fleet (Table 3) are used to inform the initial

⁸ PTNS-deployed MMPA-funded sea days cover declared groundfish trips fishing in the New England region, regardless of port of departure.

MMPA coverage rate settings within PTNS at the start of a sampling program. The actual amount of MMPA coverage each fleet will receive is unknown at the start of the sampling period. All expected MMPA NEFOP Limited PTNS values are conditional upon industry activity. Once a sampling program is underway, coverage rates are monitored and adjusted as needed in order to optimize sea day accomplishments. As mentioned previously, MMPA sea days do not contribute toward SBRM or industry-funded monitoring requirements because of differences in sampling protocols.

ESA Observer Sea Days

This year, 45 sea days were funded through NMFS for the ESA's Annual Determination provision to cover the Mid-Atlantic gillnet fleet that was relisted for another 5-year term. No days were set aside for an analysis. The 45 sea days will be assigned to the sea day schedule from June 2023 to October 2023 to monitor for potential sea turtle interactions in state waters where coverage has historically been low. Because of the nature of the coverage, the NEFOP Limited sampling design will be utilized in order to more effectively identify turtle interactions with the gillnet gear. The days are apportioned among gillnet fleets stratified by state, distance from shore, and mesh size group. ESA sea days do not contribute toward SBRM or industry-funded monitoring requirements because of the differences in sampling protocols.

Summary of Sea Days by Trip Selection System for 2023

There are 5,630 observer sea days allocated for April 2023 through March 2024 to assess the amount and type of bycatch of fish, invertebrates, sea turtles, and marine mammals in the region by using NMFS funds associated with the SBRM and the MMPA observer sea days, and the industry funded scallop program for IFS sea days. There are 1,696 IFS sea days to be assigned by the IVR for IFS fleets. There are 3,373 SBRM NEFOP sea days, of which 2,952 sea days are apportioned to the Sea Day Schedule. There are 421 SBRM NEFOP sea days apportioned to the PTNS. Of the 421 sea days, 380 sea days are allocated to fleets with NMS FMP pre-trip notification requirements, and 41 sea days are allocated to fleets with HERR FMP pre-trip notification requirements. There are 516 MMPA sea days, of which 55 sea days are assigned to the PTNS, 295 sea days are assigned to the Sea Day Schedule, and 166 days will be in support of data analysis.

The expected contributions of SBRM NEFOP PTNS sea days toward the FMP-specific total combined targets of industry-funded monitoring are approximate and derived based on previous VTR activity. The expected observer coverage values, by fleet, are used to inform the initial coverage rate settings within PTNS at the start of the sampling programs. Once a sampling program is underway, coverage rates are monitored and adjusted as needed in order to optimize sea day accomplishments.

SELECTION SYSTEM OPERATIONAL NOTES

- SBRM NEFOP sea days may be translated into expected observer coverage rate by dividing the number of observer sea days by the VTR activity. If the future VTR activity increases or decreases, this change would not alter the SBRM sampling requirements. However, it will change the expected observer coverage rate. Because future VTR activity is not known, the previous year's VTR activity is used as an estimate of future activity. The expected SBRM NEFOP PTNS observer coverage by fleet (Table 2) is used as a

starting point (initial seed) for PTNS and will be adjusted throughout the year to achieve the SBRM required number of sea days. The realized observer coverage (the SBRM NEFOP observer sea days divided by realized activity) may differ from the expected observer coverage while still meeting the sampling requirements because the VTR activity changed.

- Throughout the year, it may be necessary to make small adjustments to the sea days between the PTNS and the Sea Day Schedule if VTR activity subject to pre-trip notification requirement changes in relative magnitude from what was projected in this document. Large shifts in sea days between selection systems are not desirable. It is not possible to quantify a trigger for each potential scenario; however, the best operational guidance is to monitor the current industry activity on a monthly time interval and make small scale shifts if necessary to meet SBRM required sea days for a given fleet. Shifts in sea days between SBRM NEFOP PTNS and ASM PTNS will not occur unless shifting is necessary to support timely certification of trainees.
- With the New England Fishery Management Council's Industry-Funded Monitoring Omnibus Amendment to 6 FMPs, there is potential for additional FMP industry-funded monitoring requirements in the future. Any future IFM targets should be independent of SBRM requirements (not a combination of realized IFM percentage and SBRM sea day sampling requirements) because the interaction effects among monitoring programs are highly complex, unpredictable, and challenging to operationally support (NMFS NEFMC 2018).

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Table 1. The 2023 allocated observer sea days for April 2023 through March 2024 (taken from NEFSC and GARFO 2023), the Vessel Trip Report (VTR) activity (in days and trips) from July 2021 through June 2022 (taken from McAfee and Wigley 2023) expressed as 2023 Standardized Bycatch Reporting Methodology (SBRM) year activity (in trips and days), and the expected observer coverage if VTR activity remains the same. The expected values are conditional upon industry activity. Purple shaded rows indicate industry-funded scallop fleets. See Appendix Table 1 for fleet abbreviations.

Fleet						A	B	C	D	E = A/C	F = B/D
2023 Row	Gear Type	Access Area	Trip Cat.	Region	Mesh	Sea Days Allocated for April 2023 - March 2024 (TOTAL)	Trips for April 2023 - March 2024 (TOTAL)	2023 SBRM Vessel Trip Report (DAYS)	2023 SBRM Vessel Trip Report (TRIPS)	Expected % Coverage (DAYS)	Expected % Coverage (TRIPS)
1	Longline, Bottom	OPEN	all	MA	all	92	12	891	123	10.3%	9.8%
2	Longline, Bottom	OPEN	all	NE	all	14	12	322	294	4.3%	4.1%
3	Hand Line	OPEN	all	MA	all	14	12	2,783	2,528	0.5%	0.5%
4	Hand Line	OPEN	all	NE	all	15	12	2,055	1,728	0.7%	0.7%
5	Otter Trawl	OPEN	all	MA	sm	1,483	660	5,189	2,308	28.6%	28.6%
6	Otter Trawl	OPEN	all	MA	lg	256	105	7,316	3,001	3.5%	3.5%
7	Otter Trawl	OPEN	all	NE	sm	425	137	7,879	2,540	5.4%	5.4%
8	Otter Trawl	OPEN	all	NE	lg	276	105	12,111	4,608	2.3%	2.3%
9	Otter Trawl, LgMesh Belly Panel	OPEN	all	MA	lg	0	0	8	8	0.0%	0.0%
10	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	sm	51	12	585	144	8.7%	8.3%
11	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	lg	11	3	30	9	36.7%	33.3%
12	Otter Trawl, Scallop	OPEN	GEN	MA	lg			60	32		
13	Otter Trawl, Twin	OPEN	all	MA	sm	40	12	164	68	24.4%	17.6%
14	Otter Trawl, Twin	OPEN	all	MA	lg	40	9	41	10	97.6%	90.0%
15	Otter Trawl, Twin	OPEN	all	NE	sm	44	6	108	15	40.7%	40.0%
16	Otter Trawl, Ruhle	OPEN	all	MA	sm	0	0	30	4	0.0%	0.0%
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	0	0	13	3	0.0%	0.0%
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	123	24	0.0%	0.0%
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0	72	11	0.0%	0.0%
20	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0	321	37	0.0%	0.0%
21	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	94	12	436	57	21.6%	21.1%
22	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0	437	55	0.0%	0.0%
23	Otter Trawl, Other	OPEN	all	MA	sm	0	0	242	84	0.0%	0.0%
24	Otter Trawl, Other	OPEN	all	MA	lg	0	0	460	129	0.0%	0.0%
25	Otter Trawl, Other	OPEN	all	NE	sm	0	0	229	71	0.0%	0.0%
26	Otter Trawl, Other	OPEN	all	NE	lg	0	0	113	53	0.0%	0.0%
27	Haul Seine, Beach	OPEN	all	NE	all	0	0	13	13	0.0%	0.0%
28	Floating Trap	OPEN	all	MA	all	0	0	16	5	0.0%	0.0%
29	Floating Trap	OPEN	all	NE	all	0	0	496	460	0.0%	0.0%
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	13	12	1,239	1,171	1.0%	1.0%
31	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	93	91	1,305	1,278	7.1%	7.1%
32	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	13	12	588	562	2.2%	2.1%
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	7	6	7	6	100.0%	100.0%
34	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	18	14	1,352	1,035	1.3%	1.4%
35	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	82	61	2,609	1,950	3.1%	3.1%

Table 1, continued. The 2023 allocated observer sea days for April 2023 through March 2024 (taken from NEFSC and GARFO 2023), the Vessel Trip Report (VTR) activity (in days and trips) from July 2021 through June 2022 (taken from McAfee and Wigley 2023) expressed as 2023 Standardized Bycatch Reporting Methodology (SBRM) year activity (in trips and days), and the expected observer coverage if VTR activity remains the same. The expected values are conditional upon industry activity. Purple shaded rows indicate industry-funded scallop fleets. See Appendix Table 1 for fleet abbreviations.

2023 Row	Fleet					A	B	C	D	E = A/C	F = B/D
	Gear Type	Access Area	Trip Cat.	Region	Mesh	Sea Days Allocated for April 2023 - March 2024 (TOTAL)	Trips for April 2023 - March 2024 (TOTAL)	2023 SBRM Vessel Trip Report (DAYS)	2023 SBRM Vessel Trip Report (TRIPS)	Expected % Coverage (DAYS)	Expected % Coverage (TRIPS)
36	Purse Seine	OPEN	all	MA	all	0	0	341	339	0.0%	0.0%
37	Purse Seine	OPEN	all	NE	all	10	9	653	613	1.5%	1.5%
38	Dredge, Scallop	AA	GEN	MA	all	68	10	440	190	1.8%	1.7%
39	Dredge, Scallop	AA	GEN	NE	all	572	141	5,331	3,994	3.1%	2.5%
40	Dredge, Scallop	AA	LIM	MA	all			3,324	412		
41	Dredge, Scallop	AA	LIM	NE	all			13,297	1,568		
42	Dredge, Scallop	OPEN	GEN	MA	all	150	90	2,895	1,427	2.4%	2.5%
43	Dredge, Scallop	OPEN	GEN	NE	all			3,221	2,090		
44	Dredge, Scallop	OPEN	LIM	MA	all	906	97	1,252	140	9.5%	9.6%
45	Dredge, Scallop	OPEN	LIM	NE	all			8,305	875		
46	Trawl, Midwater	all	all	NE	sm	23	6	84	19	27.4%	31.6%
47	Pots and Traps, Other	OPEN	all	NE	all	0	0	21	21	0.0%	0.0%
48	Pots and Traps, Fish	OPEN	all	MA	all	13	12	1,027	988	1.3%	1.2%
49	Pots and Traps, Fish	OPEN	all	NE	all	13	12	1,064	1,025	1.2%	1.2%
50	Pots and Traps, Eel	OPEN	all	NE	all	0	0	69	5	0.0%	0.0%
51	Pots and Traps, Conch	OPEN	all	MA	all	12	12	572	561	2.1%	2.1%
52	Pots and Traps, Conch	OPEN	all	NE	all	12	12	859	852	1.4%	1.4%
53	Pots and Traps, Lobster	OPEN	all	MA	all	20	12	1,396	957	1.4%	1.3%
54	Pots and Traps, Lobster	OPEN	all	NE	all	18	14	32,977	24,993	0.1%	0.1%
55	Pots and Traps, Crab	OPEN	all	NE	all	105	12	628	73	16.7%	16.4%
56	Beam Trawl	OPEN	all	MA	sm	0	0	59	57	0.0%	0.0%
57	Beam Trawl	OPEN	all	NE	sm	0	0	13	13	0.0%	0.0%
58	Beam Trawl	OPEN	all	NE	lg	0	0	9	3	0.0%	0.0%
59	Scottish Seine	OPEN	all	MA	sm	0	0	9	4	0.0%	0.0%
60	Dredge, Other	OPEN	all	MA	all	0	0	271	187	0.0%	0.0%
61	Dredge, Other	OPEN	all	NE	all	0	0	343	186	0.0%	0.0%
62	Dredge, Mussel	OPEN	all	NE	all	0	0	67	67	0.0%	0.0%
63	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	47	22	3,166	1,527	1.5%	1.4%
64	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	19	12	1,978	1,252	1.0%	1.0%
	Prioritized sea days not allocated					0					
	Marine Mammal Protection Act coverage					350	See Table 3 for Marine Mammal Protection Act sea days				
	Marine Mammal Protection Act analysis					166					
	Endangered Species Act coverage					45	See Table 4 for Endangered Species Act sea days				
	TOTAL					5,630					

Table 2. The 2023 allocated observer sea days for April 2023 through March 2024 (taken from NEFSC and GARFO 2023), the fraction of industry activity from July 2021 through June 2022 expressed in 2023 fraction of effort that had Northeast Multispecies Fishery Management Plan (NMS FMP) pre-trip notification requirements (taken from NEFSC and GARFO 2023), and the fraction of activity that would have Atlantic herring (HERR) FMP pre-trip notification herring requirements (taken from NEFSC and GARFO 2023), the allocated observer sea days by fleet and trip selection system, and the expected observer coverage if industry activity remains the same. The expected values are conditional upon industry activity. Column A is taken from Table 1. Purple shaded identifies industry-funded scallop; green shading identifies Pre-Trip Notification System (PTNS) for NMS FMP; pink shading identifies PTNS for HERR FMP. NEFOP = Northeast Fishery Observer Program. See Appendix Table 1 for fleet abbreviations.

2023 Row	Fleet					A	G	H	I	J=A*G	K=A*H	L=A*(J+K)	M=J/(C*G)	N=K/(C*H)
	Gear Type	Access Area	Trip Cat.	Region	Mesh	Sea Days Allocated for April 2023 - March 2024 (TOTAL)	2023 Fraction of activity subject to NMS FMP PTNS Reqmts	2023 Fraction of activity subject to HERR FMP PTNS Reqmts	Allocated observer sea days for April 2023 to March 2024 by TRIP SELECTION SYSTEM				Expected coverage (%) by SBRM NEFOP PTNS	
									2023 IFS Sea Days IVR	2023 SBRM Sea Days NEFOP PTNS for NMS FMP	2023 SBRM Sea Days NEFOP PTNS for HERR FMP	2023 SBRM Sea Days NEFOP Sea Day Schedule	2023 SBRM Sea Day % NEFOP PTNS for NMS FMP	2023 SBRM Sea Day % NEFOP PTNS for HERR FMP
1	Longline, Bottom	OPEN	all	MA	all	92	0.000	0.000	0	0	0	92	0.0%	0.0%
2	Longline, Bottom	OPEN	all	NE	all	14	0.163	0.000	0	2	0	12	3.8%	0.0%
3	Hand Line	OPEN	all	MA	all	14	0.002	0.000	0	0	0	14	0.0%	0.0%
4	Hand Line	OPEN	all	NE	all	15	0.021	0.000	0	0	0	15	0.0%	0.0%
5	Otter Trawl	OPEN	all	MA	sm	1,483	0.000	0.000	0	0	0	1,483	0.0%	0.0%
6	Otter Trawl	OPEN	all	MA	lg	256	0.048	0.000	0	12	0	244	3.4%	0.0%
7	Otter Trawl	OPEN	all	NE	sm	425	0.000	0.043	0	0	18	407	0.0%	5.3%
8	Otter Trawl	OPEN	all	NE	lg	276	0.720	0.001	0	199	0	77	2.3%	0.0%
9	Otter Trawl, LgMesh Belly Panel	OPEN	all	MA	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%
10	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	sm	51	0.000	0.000	0	0	0	51	0.0%	0.0%
11	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	lg	11	0.000	0.000	0	0	0	11	0.0%	0.0%
12	Otter Trawl, Scallop	OPEN	GEN	MA	lg		0.000	0.000						
13	Otter Trawl, Twin	OPEN	all	MA	sm	40	0.000	0.000	0	0	0	40	0.0%	0.0%
14	Otter Trawl, Twin	OPEN	all	MA	lg	40	0.100	0.000	0	0	0	40	0.0%	0.0%
15	Otter Trawl, Twin	OPEN	all	NE	sm	44	0.000	0.000	0	0	0	44	0.0%	0.0%
16	Otter Trawl, Ruhle	OPEN	all	MA	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%
19	Otter Trawl, Ruhle	OPEN	all	NE	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%
20	Otter Trawl, Haddock Separator	OPEN	all	NE	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%
21	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	94	1.000	0.000	0	94	0	0	21.6%	0.0%
22	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%
23	Otter Trawl, Other	OPEN	all	MA	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%
24	Otter Trawl, Other	OPEN	all	MA	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%
25	Otter Trawl, Other	OPEN	all	NE	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%
26	Otter Trawl, Other	OPEN	all	NE	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%
27	Haul Seine, Beach	OPEN	all	NE	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%
28	Floating Trap	OPEN	all	MA	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%
29	Floating Trap	OPEN	all	NE	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	13	0.000	0.000	0	0	0	13	0.0%	0.0%
31	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	93	0.002	0.000	0	0	0	93	0.0%	0.0%
32	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	13	0.068	0.000	0	0	0	13	0.0%	0.0%
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	7	0.000	0.000	0	0	0	7	0.0%	0.0%
34	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	18	0.770	0.000	0	14	0	4	1.3%	0.0%
35	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	82	0.718	0.000	0	59	0	23	3.1%	0.0%

Table 2, continued. The 2023 allocated observer sea days for April 2023 through March 2024 (taken from NEFSC and GARFO 2023), the fraction of industry activity from July 2021 through June 2022 expressed in 2023 fraction of effort that had Northeast Multispecies Fishery Management Plan (NMS FMP) pre-trip notification requirements (taken from NEFSC and GARFO 2023), and the fraction of activity that would have Atlantic herring (HERR) FMP pre-trip notification herring requirements (taken from NEFSC and GARFO 2023), the allocated observer sea days by fleet and trip selection system, and the expected observer coverage if industry activity remains the same. The expected values are conditional upon industry activity. Column A is taken from Table 1. Purple shaded identifies industry-funded scallop; green shading identifies Pre-Trip Notification System (PTNS) for NMS FMP; pink shading identifies PTNS for HERR FMP. NEFOP = Northeast Fishery Observer Program. See Appendix Table 1 for fleet abbreviations.

2023 Row	Fleet					A	G	H	I				J=A*G		K=A*H		L=A*(J+K)		M=J/(C*G)		N=K/(C*H)	
	Gear Type	Access Area	Trip Cat.	Region	Mesh	Sea Days Allocated for April 2023 - March 2024 (TOTAL)	2023 Fraction of activity subject to NMS FMP PTNS Reqmts	2023 Fraction of activity subject to HERR FMP PTNS Reqmts	2023 IFS Sea Days IVR	2023 SBRM Sea Days NEFOP PTNS for NMS FMP	2023 SBRM Sea Days NEFOP PTNS for HERR FMP	2023 SBRM Sea Days NEFOP Sea Day Schedule	2023 SBRM Sea Day % NEFOP PTNS for NMS FMP	2023 SBRM Sea Day % NEFOP PTNS for HERR FMP	Allocated observer sea days for April 2023 to March 2024 by TRIP SELECTION SYSTEM		Expected coverage (%) by SBRM NEFOP PTNS					
36	Purse Seine	OPEN	all	MA	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
37	Purse Seine	OPEN	all	NE	all	10	0.000	0.046	0	0	0	10	0.0%	0.0%								
38	Dredge, Scallop	AA	GEN	MA	all	68	0.000	0.000	68													
39	Dredge, Scallop	AA	GEN	NE	all	572	0.000	0.000	572													
40	Dredge, Scallop	AA	LIM	MA	all		0.000	0.000														
41	Dredge, Scallop	AA	LIM	NE	all		0.000	0.000														
42	Dredge, Scallop	OPEN	GEN	MA	all	150	0.000	0.000	150													
43	Dredge, Scallop	OPEN	GEN	NE	all		0.000	0.000														
44	Dredge, Scallop	OPEN	LIM	MA	all	906	0.000	0.000	906													
45	Dredge, Scallop	OPEN	LIM	NE	all		0.000	0.000														
46	Trawl, Midwater	all	all	NE	sm	23	0.000	0.947	0	0	23	0	0.0%	28.9%								
47	Pots and Traps, Other	OPEN	all	NE	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
48	Pots and Traps, Fish	OPEN	all	MA	all	13	0.002	0.000	0	0	0	13	0.0%	0.0%								
49	Pots and Traps, Fish	OPEN	all	NE	all	13	0.005	0.000	0	0	0	13	0.0%	0.0%								
50	Pots and Traps, Eel	OPEN	all	NE	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
51	Pots and Traps, Conch	OPEN	all	MA	all	12	0.000	0.000	0	0	0	12	0.0%	0.0%								
52	Pots and Traps, Conch	OPEN	all	NE	all	12	0.000	0.000	0	0	0	12	0.0%	0.0%								
53	Pots and Traps, Lobster	OPEN	all	MA	all	20	0.000	0.000	0	0	0	20	0.0%	0.0%								
54	Pots and Traps, Lobster	OPEN	all	NE	all	18	0.000	0.000	0	0	0	18	0.0%	0.0%								
55	Pots and Traps, Crab	OPEN	all	NE	all	105	0.000	0.000	0	0	0	105	0.0%	0.0%								
56	Beam Trawl	OPEN	all	MA	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
57	Beam Trawl	OPEN	all	NE	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
58	Beam Trawl	OPEN	all	NE	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
59	Scottish Seine	OPEN	all	MA	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
60	Dredge, Other	OPEN	all	MA	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
61	Dredge, Other	OPEN	all	NE	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
62	Dredge, Mussel	OPEN	all	NE	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%								
63	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	47	0.000	0.000	0	0	0	47	0.0%	0.0%								
64	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	19	0.000	0.000	0	0	0	19	0.0%	0.0%								
x	Prioritized sea days not allocated					0	x	x	x	x	x	x	x	x								
	Marine Mammal Protection Act coverage (see Table 3)					350	x	x	x	x	x	x	x	x								
	Marine Mammal Protection Act analysis					166	x	x	x	x	x	x	x	x								
	Endangered Species Act coverage (see Table 4)					45																
	TOTAL					5,630	x	x	1,696	380	41	2,952	x	x								

Table 3. The 2023 Marine Mammal Protection Act allocated observer sea days for gillnet fleets by selection system. Sea days apportioned to the Pre-Trip Notification System (PTNS) will be assigned for April 2023 through March 2024; sea days apportioned to the Sea Day Schedule will be assigned for April 2023 through March 2024. The expected observer coverage, if industry activity remains the same, is given for PTNS allocated sea days. The expected values are conditional upon industry activity. See Appendix Table 2 for mesh size abbreviations.

Selection Source	Gear	Mesh Size	State	Geographical Area	Trip Characteristics	Sea Days	Expected Coverage
PTNS	Gillnet	LG	Any	New England		20	1.70%
PTNS	Gillnet	XLG	Any	New England		35	2.20%
Sea Day Schedule	Gillnet	LG	Any	New England		8	
Sea Day Schedule	Gillnet	XLG	Any	New England		112	
Sea Day Schedule	Gillnet	LG	NJ, DE, or MD	Mid-Atlantic	Ocean 0-200nm	14	
Sea Day Schedule	Gillnet	XLG	NJ, DE, or MD	Mid-Atlantic	Ocean 0-200nm	7	
Sea Day Schedule	Gillnet	Any	VA	Accomack County	Bay	3	
Sea Day Schedule	Gillnet	Any	VA	Accomack County	Ocean	48	
Sea Day Schedule	Gillnet	Any	VA	Charles City	Bay	1	
Sea Day Schedule	Gillnet	Any	VA	City of Hampton	Bay	22	
Sea Day Schedule	Gillnet	Any	VA	City of Hampton	Ocean	1	
Sea Day Schedule	Gillnet	Any	VA	Lancaster County	Bay	1	
Sea Day Schedule	Gillnet	Any	VA	Mathews County	Bay	10	
Sea Day Schedule	Gillnet	Any	VA	Northampton County	Bay	12	
Sea Day Schedule	Gillnet	Any	VA	City of Poquoson	Bay	5	
Sea Day Schedule	Gillnet	Any	VA	City of Poquoson	Ocean	1	
Sea Day Schedule	Gillnet	Any	VA	City of Suffolk	Bay	2	
Sea Day Schedule	Gillnet	Any	VA	City of Virginia Beach	Bay	4	
Sea Day Schedule	Gillnet	Any	VA	City of Virginia Beach	Ocean	3	
Sea Day Schedule	Gillnet	Any	VA	York County	Bay	1	
Sea Day Schedule	Gillnet	Any	VA	York County	Ocean	2	
Sea Day Schedule	Gillnet	LG	NC	Dare County	Ocean 0-3nm	4	
Sea Day Schedule	Gillnet	SM	NC	Dare County	Ocean 3-200nm	5	
Sea Day Schedule	Gillnet	SM	NC	Dare County	Ocean 0-3nm	29	
Total						350	

Table 4. The 2023 Endangered Species Act allocated observer sea days for Mid-Atlantic gillnet fleets by selection system. Sea days apportioned to the Sea Day Schedule will be assigned for June 2023 through October 2023. See Appendix Table 2 for mesh size abbreviations.

Selection Source	Gear	Mesh Size	State	Geographical Area	Trip Characteristics	Sea Days
Sea Day Schedule	Gillnet	LG / XLG	Any	New Jersey	Ocean (0-3nm)	15
Sea Day Schedule	Gillnet	LG / XLG	Any	Delaware	Ocean (0-3nm)	15
Sea Day Schedule	Gillnet	LG / XLG	Any	Maryland	Ocean (0-3nm)	15
Total						45

Figure 1. Schematic of funding categories, sampling designs, observer programs, and trip selection systems used by the Northeast Fisheries Science Center’s Fisheries Monitoring and Operations Branch for the 2023 observer sea days allocated for April 2023 through March 2024. Note: not all allocated Standardized Bycatch Reporting Methodology Northeast Fisheries Observer Program Pre-Trip Notification System sea days will contribute toward the industry-funded monitoring total combined target requirements. Funding equivalent to 166 MMPA sea days will be in support of observer data analysis (NEFSC and GARFO 2023).

Funding Category	National Marine Fisheries Service					INDUSTRY		
Sampling Design	Standardized Bycatch Reporting Methodology		Marine Mammal Protection Act (MMPA) / Endangered Species Act (ESA)			At-Sea Monitoring Program	Industry Funded Scallop	
Observer Program/ Protocols	Northeast Fisheries Observer Program		Northeast Fisheries Observer Program Limited			At-Sea Monitoring Program	Industry Funded Scallop	
Selection System	Sea Day Schedule 2,952	Pre-Trip Notification System		Sea Day Schedule 295 MMPA sea days	Sea Day Schedule 45 ESA sea days	Pre-Trip Notification System 55 MMPA sea days	Pre-Trip Notification System	Interactive Voice Response 1,696
		Northeast Multispecies Fishery Management Plan 380	Atlantic Herring Fishery Management Plan 41					

APPENDIX

Step through calculations for 3 selected fleets in Tables 1 and 2

1. New England (NE) large mesh otter trawl fleet (Row 8) for April 2023 through March 2024

How many observer sea days in this fleet (Row 8) are apportioned to each selection system?

276 days	Total number of Standardized Bycatch Reporting Methodology (SBRM) Northeast Fisheries Observer Program (NEFOP) observer sea days for this fleet (Table 1, Column A, Row 8) is taken from the 2023 SBRM Annual Discard Report with Observer Sea Day Allocation (NEFSC and GARFO 2023) and is a variance-based estimate of sample size.
12,111 days	Number of Vessel Trip Report (VTR) days in this fleet (Table 1, Column C, Row 8) is taken from 2023 Discard estimation, precision, and sample size analyses for 14 federally managed species in the water off the northeastern United States (McAfee and Wigley 2023).
0.720	Fraction of industry activity with Northeast Multispecies (NMS) fishery management plan (FMP) pre-trip notification requirements in this fleet (Table 2, Column G, Row 8) is derived by dividing the number of trips subject to NMS FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 1, Column D, Row 8).
0.001	Fraction of industry activity with Atlantic herring (HERR) pre-trip notification requirements in this fleet (Table 2, Column H, Row 8) is derived by dividing the number of trips subject to the HERR FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 1, Column D, Row 8).
0 days	Number of Industry Funded Scallop (IFS) observer sea days for the Interactive Voice Response (IVR) system (IFS sea day for IVR, Table 2, Column I, Row 8) is taken from Table 1, Column A, Row 8. This fleet is not an IFS fleet; trips in this fleet did not use a scallop trawl or scallop dredge.
199 days	$(276 * 0.720)$ Number of SBRM NEFOP observer sea days in this fleet apportioned to the Pre-Trip Notification System (PTNS) for trips with NMS FMP pre-trip notification requirements, rounded to whole days (SBRM NEFOP PTNS for NMS FMP; Table 2, Column J, Row 8) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 2, Column A, Row 8) and the fraction of industry activity with NMS FMP pre-trip notification requirements in this fleet (Table 2, Column G, Row 8).
0 days	$(276 * 0.000)$ Number of SBRM NEFOP observer sea days in this fleet apportioned to the PTNS for trips with HERR FMP pre-trip notification requirements, rounded to whole days (SBRM NEFOP PTNS for HERR FMP; Table 2, Column K, Row 8) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 2, Column A, Row 8) and fraction of industry activity with HERR FMP pre-trip notification requirements in this fleet (Table 2, Column H, Row 8).
77 days	$(276 - (199 + 0))$ Number of SBRM NEFOP observer sea days apportioned to the NEFOP Sea Day Schedule selection protocol system for this fleet (SBRM NEFOP for NEFOP Sea Day Schedule; Table 2, Column L, Row 8) is derived by the sum of SBRM NEFOP PTNS for NMS FMP (Table 2, Column J, Row 8) and SBRM NEFOP PTNS for HERR FMP (Table 2, Column

K, Row 8) subtracted from the of total SBRM NEFOP observer sea days for this fleet (Table 2, Column A, Row 8).

What is the expected observer coverage percentage provided by SBRM NEFOP PTNS sea days in this fleet?

Future industry activity (for the fleet, the fleet's subcomponents, and total industry activity) is not known, so past activity is used (July 2021 through June 2022, taken from the SBRM analysis). The expected percentage of SBRM NEFOP observer sea days is a conditional value based on the assumption that future effort will be the same as past effort.

This expected observer coverage represents an approximate percentage of SBRM NEFOP sea days that will contribute toward the NMS FMP total combined monitoring requirements. This estimate does not account for the portion of declared trips with Exempted Fishing Permits (EFP) and/or FMP monitoring exemptions.

2.3% $(199 / (12,111 * 0.720) * 100)$ The expected percentage of SBRM NEFOP PTNS observer sea days for trips with NMS FMP pre-trip notification requirement in this fleet (Table 2, Column M, Row 8) is derived by dividing the SBRM NEFOP PTNS for NMS FMP observer sea days (Table 2, Column J, Row 8) by the product of the VTR effort (Table 1, Column C, Row 8) and the fraction of industry activity with NMS FMP pre-trip notification requirements (Table 2, Column G, Row 8). To represent as a percentage, multiply by 100.

0% $(0 / (12,111 * 0.001) * 100)$ The expected percentage of SBRM NEFOP PTNS observer sea days for trips with HERR FMP pre-trip notification requirement in this fleet in calendar quarter 1 (Table 2, Column N, Row 8) is derived by dividing the SBRM NEFOP PTNS for HERR FMP observer sea days (Table 2, Column K, Row 8) by the product of the VTR effort (Table 1, Column C, Row 8) and the fraction of industry activity with HERR FMP pre-trip notification requirements (Table 2, Column H, Row 8). To represent as a percentage, multiply by 100.

2. NE small mesh Otter trawl fleet (Row 7) for April 2023 through March 2024

How many observer sea days in this fleet (Row 7) are apportioned to each selection system?

- 425 days Total number of SBRM NEFOP observer sea days for this fleet (Table 1, Column A, Row 7) is taken from the 2023 SBRM Annual Discard Report with Observer Sea Day Allocation (NEFSC and GARFO 2023) and is a variance-based estimate of sample size.
- 7,879 days Number of VTR days in this fleet (Table 1, Column C, Row 7) is taken from 2023 Discard estimation, precision, and sample size analyses for 14 federally managed species in the water off the northeastern United States (McAfee and Wigley 2023).
- 0.000 Fraction of industry activity with Northeast Multispecies (NMS) fishery management plan (FMP) pre-trip notification requirements in this fleet (Table 2, Column G, Row 7) is derived by dividing the number of trips subject to NMS FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 1, Column D, Row 7).
- 0.043 Fraction of industry activity with Atlantic herring (HERR) pre-trip notification requirements in this fleet (Table 2, Column H, Row 7) is derived by dividing the number of trips subject to the HERR FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 1, Column D, Row 7).
- 0 days Number of Industry Funded Scallop (IFS) observer sea days for the Interactive Voice Response (IVR) system (IFS sea day for IVR, Table 2, Column I, Row 7) is taken from Table 1, Column

A, Row 7). This fleet is not an IFS fleet; trips in this fleet did not use a scallop trawl or scallop dredge.

- 0 days (425 * 0.000) Number of SBRM NEFOP observer sea days in this fleet apportioned to the PTNS for trips with NMS FMP pre-trip notification requirements, rounded to whole days (SBRM NEFOP PTNS for NMS FMP; Table 2, Column J, Row 7) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 2, Column A, Row 7) and the fraction of industry activity with NMS FMP pre-trip notification requirements in this fleet in calendar quarter 1 (Table 2, Column G, Row 7).
- 18 days (425 * 0.043) Number of SBRM NEFOP observer sea days in this fleet apportioned to the PTNS for trips with HERR FMP pre-trip notification requirements, rounded to whole days (SBRM NEFOP PTNS for HERR FMP; Table 2, Column K, Row 7) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 2, Column A, Row 7) and the fraction of industry activity with HERR FMP pre-trip notification requirements in this fleet (Table 2, Column H, Row 7).
- 407 days (425 – (0 + 18)) Number of SBRM NEFOP observer sea days apportioned to the NEFOP Sea Day Schedule selection protocol system for this fleet (SBRM NEFOP for NEFOP Sea Day Schedule; Table 2, Column L, Row 7) is derived by the sum of SBRM NEFOP PTNS for NMS FMP (Table 2, Column J, Row 7) and SBRM NEFOP PTNS for HERR FMP (Table 2, Column K, Row 7) subtracted from the of total SBRM NEFOP observer sea days for this fleet (Table 2, Column A, Row 7).

What is the expected observer coverage percentage provided by SBRM NEFOP PTNS sea days in this fleet?

Future industry activity (for the fleet, the fleet's subcomponents, and total industry activity) is not known, so past activity is used (July 2021 through June 2022, taken from the SBRM analysis). The expected percentage of SBRM NEFOP observer sea days is a conditional value based on the assumption that future effort will be the same as past effort.

This expected observer coverage represents an approximate percentage of SBRM NEFOP sea days that will contribute toward the NMS FMP and HERR FMP total combined monitoring requirements. This estimate does not account for the portion of declared trips with EFPs and/or FMP monitoring exemptions.

- 0% $(0 / (7,879 * 0.000)) * 100$ The expected percentage of SBRM NEFOP PTNS observer sea days for trips with NMS FMP pre-trip notification requirement in this fleet (Table 2, Column M, Row 7) is derived by dividing the SBRM NEFOP PTNS for NMS FMP observer sea days (Table 2, Column J, Row 7) by the product of the VTR effort (Table 1, Column C, Row 7) and the fraction of industry activity with NMS FMP pre-trip notification requirements (Table 2, Column G, Row 7). To represent as a percentage, multiply by 100.
- 5.3% $(18 / (7,879 * 0.043)) * 100$ The expected percentage of SBRM NEFOP PTNS observer sea days for trips with HERR FMP pre-trip notification requirement in this fleet (Table 2, Column N, Row 7) is derived by dividing the SBRM NEFOP PTNS for HERR FMP observer sea days (Table 2, Column K, Row 7) by the product of the VTR effort (Table 1, Column C, Row 7) and the fraction of industry activity with HERR FMP pre-trip notification requirements (Table 2, Column H, Row 7). To represent as a percentage, multiply by 100.

3. NE small mesh midwater trawl fleet (Row 46) for April 2023 through March 2024

How many observer sea days in this fleet (Row 46) are apportioned to each selection system?

23 days	Total number of SBRM NEFOP observer sea days for this fleet (Table 1, Column A, Row 46) is taken from the 2023 SBRM Annual Discard Report with Observer Sea Day Allocation (NEFSC and GARFO 2023) and is based on minimum pilot coverage (variance-based estimate of sample size were removed by importance filter).
84 days	Number of VTR days in this fleet (Table 1, Column C, Row 46) is taken from 2023 Discard estimation, precision, and sample size analyses for 14 federally managed species in the water off the northeastern United States (McAfee and Wigley 2023).
0.000	Fraction of industry activity with Northeast Multispecies (NMS) fishery management plan (FMP) pre-trip notification requirements in this fleet (Table 2, Column G, Row 46) is derived by dividing the number of trips subject to NMS FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 1, Column D, Row 46).
0.947	Fraction of industry activity with Industry Funded Monitoring HERR FMP pre-trip notification requirements in this fleet (Table 2, Column H, Row 46) is derived by dividing the number of trips subject to the HERR FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 1, Column D, Row 46).
0 days	Number of Industry Funded Scallop (IFS) observer sea days for the Interactive Voice Response system (IFS sea day for IVR, Table 2, Column I, Row 46) is taken from Table 1, Column A, Row 46. This fleet is not an IFS fleet; trips in this fleet did not use a scallop trawl or scallop dredge.
0 days	$(23 * 0.000)$ Number of SBRM NEFOP observer sea days in this fleet apportioned to the PTNS for trips with NMS FMP pre-trip notification requirements, rounded to whole days (SBRM NEFOP PTNS for NMS FMP; Table 2, Column J, Row 45) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 2, Column A, Row 45) and the fraction of industry activity with NMS FMP pre-trip notification requirements in this fleet in calendar quarter 1 (Table 2, Column G, Row 45).
23 days	$(23 * 0.947)$ Number of SBRM NEFOP observer sea days in this fleet apportioned to the PTNS for trips with HERR FMP pre-trip notification requirement, rounded to whole days (SBRM NEFOP PTNS for HERR FMP; Table 2, Column K, Row 46) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 2, Column A, Row 46) and the fraction of industry activity with HERR FMP pre-trip notification requirements in this fleet (Table 2, Column H, Row 46).
0 days	$(23 - (0 + 23))$ Number of SBRM NEFOP observer sea days apportioned to the NEFOP Sea Day Schedule selection protocol system for this fleet (SBRM NEFOP for NEFOP Sea Day Schedule; Table 2, Column L, Row 46) is derived by the sum of SBRM NEFOP PTNS for NMS FMP (Table 2, Column J, Row 46) and SBRM NEFOP PTNS for HERR FMP (Table 2, Column K, Row 46) subtracted from the of total SBRM NEFOP observer sea days for this fleet (Table 2, Column A, Row 46).

What is the expected observer coverage percentage provided by SBRM NEFOP PTNS sea days in this fleet?

Future industry activity (for the fleet, the fleet's subcomponents, and total industry activity) is not known, so past activity is used (July 2021 through June 2022, taken from the SBRM analysis). The expected percentage of SBRM NEFOP observer sea days is a conditional value based on the assumption that future effort will be the same as past effort.

This expected observer coverage represents an approximate percentage of SBRM NEFOP sea days that will contribute toward the NMS FMP and HERR FMP total combined monitoring requirements. This estimate does not account for the portion of declared trips with Exempted Fishing Permits and/or FMP monitoring exemptions.

0% $(0 / (84 * 0.000) * 100)$ The expected percentage of SBRM NEFOP PTNS observer sea days for trips with NMS FMP pre-trip notification requirement in this fleet (Table 2, Column M, Row 46) is derived by dividing the SBRM NEFOP PTNS for NMS FMP observer sea days (Table 2, Column J, Row 46) by the product of the VTR effort (Table 1, Column C, Row 46) and the fraction of industry activity with NMS FMP pre-trip notification requirements (Table 2, Column G, Row 46). To represent as a percentage, multiply by 100.

28.9% $(23 / (84 * 0.947) * 100)$ The expected percentage of SBRM NEFOP PTNS observer sea days for trips with HERR FMP pre-trip notification requirement in this fleet (Table 2, Column N, Row 46) is derived by dividing the SBRM NEFOP PTNS for HERR FMP observer sea days (Table 2, Column K, Row 46) by the product of the VTR effort (Table 1, Column C, Row 46) and the fraction of industry activity with HERR FMP pre-trip notification requirements (Table 2, Column H, Row 46). To represent as a percentage, multiply by 100.

Appendix Table 1. Stratification abbreviations used for Standardized Bycatch Reporting Methodology fleets in Tables 1 and 2.

Abbreviation	Definition
NE	New England ports (RI and northward)
MA	Mid-Atlantic ports (CT and southward)
Sm	Small mesh (less than 5.50 in.)
Lg	Large mesh (from 5.50 to 7.99 in. for gillnet; 5.50 in. and greater for trawl)
Xlg	Extra large mesh (8.00 in. and greater for gillnet)
AA	Access area (includes the allocated sea days for the Northern Gulf of Maine Scallop Management Area beginning in April 2022)
OPEN	Non-access area
GEN	General category
LIM	Limited access category

Appendix Table 2. Mesh size abbreviations used for Marine Mammal Protection Act (MMPA) and Endangered Species Act fleets in Table 3 and 4.

Abbreviation	Definition
Sm	Small mesh (less than 5.00 in.)
Lg*	Large mesh (from 5.00 to 7.99 in.)
Xlg	Extra large mesh (8.00 in. and larger)

*Large mesh sea days allocated to New Jersey, Delaware, and Maryland for MMPA coverage utilize the Standardized Bycatch Reporting Methodology definition of 5.50 to 7.99 inches.

Appendix Table 3. Vessel Trip Report (VTR) gear codes used to describe the gear used on Northeast federally permitted commercial fishing trip with VTR submission requirements.

Gear Code	NE Gear	Gear Name
DIV	330	Diving Gear
DRC	400	Dredge, Ocean Quahog/Surf Clam
DRM	385	Dredge, Mussel
DRO	381	Dredge, Other
DRS	132	Dredge, Scallop, Sea
DSC	132	Dredge, Scallop-Chain Mat
DTC	450	Dredge, Scallop, Chain Mat, Mod
DTS	150	Dredge, Scallop, Turtle Deflect
GND	115	Gill Net, Drift, Large Mesh
GNR	500	Gill Net, Runaround
GNS	100	Gill Net, Sink
GNT	110	Gill Net, Drift, Small Mesh
HND	020	Hand Line/Rod & Reel
HRP	030	Harpoon
LLB	010	Longline, Bottom
LLP	040	Longline/Pelagic
MIX	999	Mixed Gear
OTB	350	Otter Trawl, Beam
OTC	052	Otter Trawl, Bottom, Scallop
OTF	050	Otter Trawl, Bottom, Fish
OTH	999	Gear, Other
OTM	370	Otter Trawl, Midwater
OTO	059	Otter Trawl, Bottom, Other
OTS	058	Otter Trawl, Bottom, Shrimp
PTB	056	Pair Trawl, Bottom
PTC	300	Pot, Crab
PTF	181	Pot, Fish
PTL	200	Pot, Lobster
PTM	170	Pair Trawl, Midwater
PTO	180	Pot, Other
PTS	190	Pot, Shrimp
PTX	180	Pots, Mixed
PUR	120	Purse Seine
SED	160	Seine, Danish
SES	360	Seine, Scottish
TRP	080	Trap

Appendix Table 4. Vessel Monitoring System (VMS) Plan Codes are the first 3 characters in a VMS declaration code describing the Fisheries Management Plan (FMP) the vessel is fishing under.

Plan Code	Description
DOF	Declare out of Fishery
HER	Herring
MNK	Monkfish
NMS	Northeast Multispecies
PWD	Power Down
SCO	Surfclam & Ocean Quahog
SES	Scallop
SMB	Squid, Mackerel, Butterfish

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