



**NOAA Technical Memorandum NMFS-NE-319**

**2024 Standardized Bycatch  
Reporting Methodology  
Annual Discard Report with  
Observer Sea Day Allocation  
by Fleet and Trip Selection System**

**US DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Northeast Fisheries Science Center  
Woods Hole, Massachusetts  
May 2024**



## **NOAA Technical Memorandum NMFS-NE-319**

This series represents a secondary level of scientific publishing. All issues employ thorough internal scientific review; some issues employ external scientific review. Reviews are transparent collegial reviews, not anonymous peer reviews. All issues may be cited in formal scientific communications.

# **2024 Standardized Bycatch Reporting Methodology Annual Discard Report with Observer Sea Day Allocation by Fleet and Trip Selection System**

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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 pre-dissemination 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  
CI = confidence interval  
CV = coefficient of variation  
EFP = Exempted Fishing Permit  
EM = electronic monitoring  
EPU = Ecological Production Unit  
ESA = Endangered Species Act  
FMRD = Fishery Monitoring and Research Division  
FMP = fishery management plan  
FY = fiscal year  
GEN = general category  
GB = Georges Bank  
HER = FMP and VMS plan code for Atlantic herring  
IFM = industry-funded monitoring  
IFS = Industry-Funded Scallop  
IFQ = individual fishing quota  
LAGC = limited access general category  
lg = large mesh  
LIM = limited access category  
MA = Mid-Atlantic  
MAFMC = Mid-Atlantic Fishery Management Council  
MMPA = Marine Mammal Protection Act  
MPC = minimum pilot coverage  
NE = New England  
NEFMC = New England Fishery Management Council  
NEFOP = Northeast Fisheries Observer Program  
NEFSC = Northeast Fisheries Science Center  
NGOM = Northern Gulf of Maine Scallop Management Area  
NMFS = National Marine Fisheries Service  
NMS = FMP and VMS plan code for Northeast Multispecies  
NOAA = National Oceanic and Atmospheric Administration  
OPEN = nonaccess area  
PTNS = Pre-Trip Notification System  
SBRM = Standardized Bycatch Reporting Methodology  
SE = standard error of the estimate  
sm = small mesh  
TDD = turtle deflector dredges  
VTR = Vessel Trip Report  
xlg = extra large mesh

## EXECUTIVE SUMMARY

This document contains a compilation of information that meets the 2024 Standardized Bycatch Reporting Methodology (SBRM) annual discard report requirements. For fish and invertebrate species groups, several of the required annual discard report elements (discards and precision by fleet) can be found in McAfee (2024), along with a description of the data sources, methods, results, and discussion. Similarly, for sea turtles, further information can be found in Murray (2012, 2020, 2023). This year's report also 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. The values inform the initial SBRM coverage settings within the Pre-Trip Notification System (PTNS) at the start of a sampling program and will be adjusted as needed in order to optimize sea day accomplishments.

For Industry-Funded Scallop (IFS) Program trips sailing on or after April 1, 2024, the selection and deployment of observers will be managed through the PTNS instead of the previously used interactive voice response call-in system.

The sea days needed to monitor the 15 SBRM species groups (14 fish/invertebrate species groups and 1 sea turtle species) for April 2024 through March 2025 are based on July 2022 through June 2023 data. Of the 8,853 sea days, 7,408 sea days are needed for agency-funded fleets, and 1,445 sea days are needed for IFS fleets.

The funds available to the Northeast Fisheries Science Center's Fishery Monitoring and Research Division in fiscal year (FY) 2024 are estimated to provide support for 2,538 days, and 64 days are carried over (i.e., bought ahead) from FY2023 funds for a total of 2,602 days (2,181 prioritized days + 421 non-prioritized days) for April 2024 through March 2025. Based upon the 2024 observer set-aside compensation rate analysis for the IFS Program, there is industry funding for 1,548 days. Hence, 4,150 days are available for observer coverage for April 2024 through March 2025.

Within the agency-funded fleets and prioritization-applicable funding, a shortfall of 5,227 (7,408 – 2,181) days is expected. The 2024 funding shortfall triggers the SBRM prioritization process; the penultimate approach is utilized with a portion of the agency funds. Practical limitations prevent the observer program from covering 36 sea days associated with 4 fleets. These 36 sea days have been reallocated to the last fleet impacted by the prioritization process.

Of the 4,150 sea days, there are 3,729 allocated sea days to assess the amount and type of bycatch of fish, invertebrates, sea turtles, and marine mammals in the region. Of the 3,729 days, 2,181 agency-funded, prioritized sea days are split between selection systems, and 1,548 IFS sea days are allocated to the PTNS. Based on Vessel Trip Report (VTR) activity from July 2022 through June 2023, 1,641 agency-funded, prioritized sea days are apportioned to the Sea Day Schedule, and 540 sea days are apportioned to the PTNS. There are an additional 387 Marine Mammal Protection Act (MMPA)-funded, non-prioritized sea days. Of the 387 days, 350 sea days are assigned for observer coverage with 111 of those days assigned to PTNS and 239 assigned to the Sea Day Schedule. The remaining 37 MMPA days are not assigned as they will be days used for analysis. An additional 34 Endangered Species Act-funded, non-prioritized sea days are assigned to the Sea Day Schedule.

The National Marine Fisheries Service published a final interim rule in October 2023 that requires electronic VTR submissions for all federal lobster permit holders beginning April 1, 2024, which expands the sampling frame for lobster pot fleets once it becomes effective. Therefore, all active federal lobster vessels will be eligible for selection to take an observer this upcoming SBRM year (April 2024 through March 2025).



## INTRODUCTION

The Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment was implemented in February 2008 (NEFMC et al. 2007; NMFS 2008) to address the requirements of the Magnuson-Stevens Fishery Conservation and Management Act to include standardized bycatch reporting methodology in all of the New England Fishery Management Council (NEFMC) and Mid-Atlantic Fishery Management Council (MAFMC) federal fishery management plans (FMPs). A revised SBRM Omnibus Amendment was approved in March 2015, and a final rule was implemented in July 2015 (NEFMC et al. 2015).

The SBRM amendment requires an annual discard report using information obtained from the Northeast Fisheries Science Center's (NEFSC) Fishery Monitoring and Research Division (FMRD) observer programs (Northeast Fisheries Observer Program [NEFOP] and Industry-Funded Scallop [IFS] Program) for 14 federally managed species groups and sea turtles (Table 1) in the waters of the northeastern United States. Specifically, the SBRM annual discard report requirements include:

...summaries of the trips observed, fishing modes in the relevant time period, funding issues and other related issues and developments, and projections of coverage across fisheries for [the] upcoming time period. More detailed information would be provided in tables and figures that addressed: The number of observer trips and sea days scheduled that were accomplished for each fishing mode and quarter, as well as the number of trips and sea days of industry activity; the kept weight from unobserved quarters and statistical areas summarized by fishing mode; the amount kept and estimated discards of each species by fishing mode; and the relationship between sample size and precision for relevant fishing modes. (NEFMC et al. 2015).

Each year, discard estimates and variability are derived by using observer data from the prior year to inform observer coverage needs for the upcoming year. For fish and invertebrate species groups, several of the required annual discard report elements (discards and precision by fleet) can be found in McAfee (2024), along with a description of the data sources, methods, results, and discussion. Similarly, for sea turtles, further information can be found in Murray (2012, 2020, 2023). This report describes the sea days needed to monitor the 15 SBRM species groups (14 fish/invertebrate species groups and 1 sea turtle species; Table 1), funding available for observer coverage, and the numbers of sea days allocated by fleet<sup>1</sup> (where a fleet represents gear type, access area, trip category, region, and mesh group combinations) for April 2024 through March 2025. Thus, this document, together with McAfee (2024) and Murray (2020, 2023), compose the information needed to meet the 2024 SBRM annual discard report requirements. Additional to these requirements, this report also incorporates detailed information about the allocation of observer sea days between 2 trip selection and deployment systems that were described in a separate document in previous years.

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<sup>1</sup> Fleets are synonymous with “fishing modes.”

## **SUMMARY OF OBSERVER COVERAGE**

A total of 1,621 trips (5,002 days) were observed from July 2022 through June 2023. When these trips were stratified by fleet and quarter, some trips were partitioned between fleets resulting in 1,725 trips (5,304 days). See Tables 2 and 3 in McAfee (2024) for a summary of the number of observed trips and industry Vessel Trip Report (VTR) trips by fleet and calendar quarter, and a summary of the number of observed sea days and industry sea days by fleet and calendar quarter, respectively. There were 58 fleets uniquely identified in the July 2022 through June 2023 data, none of which were new fleets. However, 4 of the fleets were not present in last year's analysis but were present in previous SBRM analyses: New England (NE) large mesh twin trawl fleet (Row 16), NE large mesh shrimp trawl (Row 21), NE hagfish pots and traps (Row 49), and Mid-Atlantic (MA) crab pots and traps (Row 52).

A spatial and temporal analysis of the kept weight of all species (i.e., any species retained during the trip) from statistical areas and calendar quarter was conducted. Over all fleets, 67.1% of kept weight of all species occurred in statistical areas and calendar quarters that had observer coverage. For a summary of the percentage of kept weight with observer coverage by fleet from July 2022 through June 2023, see Table 4 in McAfee (2024).

## **SUMMARY OF DISCARD ESTIMATES**

For fish/invertebrate species, the total catch, kept, and estimated discards (in live weight) and their associated coefficient of variation (CV) were derived for fleets by using data collected from July 2022 through June 2023 (McAfee 2024). Based upon that discard estimation analysis, an estimated 50,457 mt (111,238,779 lb) of federally regulated species were discarded from non-confidential fleets (Table 2). Fleet stratification abbreviations used in this report are described in Appendix Table 1. For summaries by fleet and SBRM species group and summaries by fleet and individual species that compose these 14 species groups, see Tables 5A and 5B in McAfee (2024). The most recent average annual estimates of sea turtle interactions and CVs in U.S. commercial fisheries are listed in Table 3. Methods to estimate sea day needs for the different gear types can be found in either Murray (2020) or Murray (2023).

## **SUMMARY OF SEA DAYS NEEDED**

For fish/invertebrate species groups, the number of sea days needed to achieve a 30% CV of total discards for each species group was derived for 58 fleets by using data collected from July 2022 through June 2023 (McAfee 2024). Based on that sample size analysis, a total of 9,113 sea days would be needed for the 14 fish and invertebrate species groups. Table 4 presents the number of sea days needed for each of the 14 species groups, number of pilot coverage<sup>2</sup> days, and number of minimum pilot days. Table 4 and Step 1 in Table 5 present the sea days needed by fleet. The number of needed sea days for fish/invertebrate species groups is further adjusted as described below.

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<sup>2</sup> Pilot coverage is the minimum level of observer coverage necessary to acquire bycatch information with which to calculate variance estimates that can then be used to further define the level of sampling needed (NMFS 2004).

In the McAfee (2024) analysis, there were 11 “erroneous” fleets identified that resulted from either VTR misreporting the gear type used, fishing outside the regulations (by using smaller mesh size than allowed), or inconsistent gear codes between data collection systems (e.g., otter trawl, other; pots and trap, other; dredge, other; and shrimp trawl). The 260 sea days associated with these fleets (composed of 1,264 VTR trips for July 2022 through June 2023) have been set to 0 (Table 5, Step 2, gray-shaded cells). When this adjustment is made, 8,853 days total are needed to monitor 14 fish/invertebrate species groups in 47 fleets (Table 5, Step 2).

The analysis of sea turtle bycatch in MA bottom trawl gear from 2014-2018 was used to project sea day monitoring needs for turtles in 2024 (Murray 2020). Interaction rates for each turtle species were estimated with stratified ratio estimators, where rates were stratified by Ecological Production Unit (EPU; Georges Bank [GB] and MA), latitude zone, season, and depth. In the MA EPU, a total of 571 loggerhead (*Caretta caretta*, CV = 0.29, 95% confidence interval [CI] = 318-997), 46 Kemp’s ridley (*Lepidochelys kempii*, CV = 0.45, 95% CI = 10-88), 16 green (*Chelonia mydas*, CV = 0.73, 95% CI = 0-44), and 20 leatherback (*Dermochelys coriacea*, CV = 0.72, 95% CI = 0-50) turtle interactions were estimated to have occurred in bottom trawl gear over the 5-year period. On GB, 12 loggerheads (CV = 0.70, 95% CI = 0-31) and 6 leatherback (CV = 1.0, 95% CI = 0-20) interactions were estimated to have occurred (Table 3).

Prior to estimating observer coverage needs for future fishing years, the probability of encountering each turtle species in either the GB or MA EPU was estimated by using results of this analysis. This process was recommended for sea turtles to prevent SBRM sea day needs in some fleets from being driven by species with a low probability of encounter with the fishing gear (Hogan et al. 2019). As a result, monitoring levels were not estimated for Kemp’s ridley, leatherback, or green turtles in the updated analysis, nor for loggerheads on GB, because there was <50% probability of observing 5 or more turtles over 800 trips in a year. Observer coverage needs were estimated for loggerheads in the MA.

The results of Murray (2020) indicate that 2,668 sea days are needed annually to monitor loggerhead interactions with 30% precision across bottom trawl fleets operating in the MA EPU (see text table given below). However, allocating 2,668 days to MA<sup>3</sup> SBRM trawl fleets will overshoot the needed number of days for turtles because some portion of the effort in the MA EPU is composed of NE fleets. To avoid this, we removed the proportion of sea days from the needed number of days allocated for turtles to account for the overlap of spatial strata when fish and sea turtle sea days are merged. We followed the same approach used in NEFSC and GARFO (2023).

According to VTR data from 2014-2018, approximately 67% of NE small mesh otter trawl effort (in terms of days fished) and 10% of NE large mesh otter trawl effort occurred in the MA EPU<sup>4</sup>. We applied these proportions to the number of days needed to monitor fish in each of the NE otter trawl fleets (1,026 and 595 days in the NE small mesh and large mesh otter fleets, respectively; Table 5, Step 2, Rows 7 and 8), for a total of 747 days. We then removed 747 days from the coverage needed for turtles, so that days allocated for turtles in the MA were reduced to

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<sup>3</sup> The sampling frame for SBRM “Mid-Atlantic” fleets is composed of vessels departing from Connecticut to North Carolina; however, vessels operating in the MA EPU depart from Massachusetts to North Carolina, based on the turtle analysis.

<sup>4</sup> Other bases for these percentages were explored, including a 3-year average from 2016-2018 or the latest year’s effort (2018). In both scenarios, the percentages differed by <5%, so the 2014-2018 percentages were used to adjust turtle days because these years were the basis of the sea day analysis.

1,921 days (see text table given below and Table 5). We anticipate that the actual amount of observer effort in the MA EPU is the adjusted amount for turtles plus the amount of effort operating there from NE fleets. The amount of MA effort fishing in the NE EPUs was small (<5% of effort), so we did not make any adjustments in the other direction (i.e., removing MA effort from the NE fish days).

The analysis to determine sea day needs for turtles in gillnet fleets was informed by Murray (2023), which includes the Gulf of Maine, GB, and MA EPUs. Over 800 trips, there was only a 10% estimated probability of observing 5 or more loggerhead turtles and even lower probabilities for green, Kemp’s ridley, and leatherback turtles (Murray 2023). Since the 10% estimated probability of observing 5 or more loggerhead turtles is lower than the established 50% threshold required by SBRM, sea days to monitor turtles were set to 0 (Table 5, Step 3), and needed sea days will be driven by other species groups instead of turtles for the 6 impacted gillnet fleets (Rows 28-33). Estimates of sea day needs for turtles are revised approximately every 5 years when new bycatch estimates are published for a particular gear type.

Similar to 2023, coverage needs for turtles on vessels using scallop dredge gear in the MA were not estimated. Since May 2013, the use of turtle deflector dredges (TDDs) with chain mats have been required on scallop dredges in times and areas where loggerhead turtles are known to be most common. These modifications are intended to reduce those interactions in which animals are landed or observed from the deck, although other “unobservable” interactions may still be occurring (i.e., those in which animals escape from the gear or come in contact with the gear but are not captured and brought to the surface where they can be observed; Warden and Murray 2011). Observer coverage levels in the MA scallop dredge fleets in 2024 will be driven by other species groups, so some level of coverage will exist to monitor the effectiveness of TDDs and chain mats in reducing observable interactions and to help monitor turtle interactions outside of gear-regulated times and areas.

The numbers of sea days needed to achieve a 30% CV associated with the Gulf of Maine, GB, and MA turtle gear types and fish/invertebrate fleets are given below and in Table 5, Steps 2 and 3. While sea day needs in this document refer to all turtle species (“TURS”) they have been informed by estimates and CVs of loggerhead bycatch only.

Turtle Gear Types and Fish/Invertebrate Fleets	Sea Days Needed	
	TURS	Fish/Invertebrate Species Groups
MA Otter Trawl, MA Scallop Trawl, MA Ruhle Trawl, MA Other Otter Trawl Rows 5, 6, 12, 17, 22, and 23	2,668 (reduced to 1,921)	4,282
MA and NE Gillnet Rows 28-33	0	568

The numbers of sea days needed for the combined fish/invertebrate and TURS species groups were derived as follows:

- If the sum of the sea days needed for fish/invertebrate species groups of the corresponding fish/invertebrate fleets exceeded the sea days needed for the turtle gear type, then the sea days needed for fish/invertebrate was used. To support the

penultimate prioritization approach<sup>5</sup>, the sea days needed for TURS are apportioned to the corresponding fish/invertebrate fleets by using the proportion of fish/invertebrate sea days within the turtle gear type (Table 5, Step 4).

- If the number of sea days needed for TURS for the gear type exceeded the sum of the sea days needed for fish/invertebrate groups of the corresponding fish/invertebrate fleets, then the difference between the sea days needed for TURS and fish was distributed according to the proportion of VTR sea days corresponding to fish/invertebrate fleets and added to the days needed for fish/invertebrate groups, by fleet (Table 5, Step 4). The number of VTR sea days by fleet is taken from Table 3 in McAfee (2024) and reflects industry activity from July 2022 through June 2023.

A total of 8,853 sea days is needed for fish/invertebrates and TURS (COMBINED; Table 5, Step 5) for April 2024 through March 2025. Of the 8,853 sea days, 7,408 sea days are needed for agency-funded fleets (i.e., funded by National Marine Fisheries Service [NMFS]), and 1,445 sea days are needed for IFS fleets (Table 5, Step 6).

## SUMMARY OF FUNDING AVAILABLE FOR APRIL 2024 THROUGH MARCH 2025

The funds available to the NEFSC's FMRD in fiscal year (FY) 2024 are estimated to provide support for 2,538 days. There are also 64 days carried over (i.e., bought ahead) from FY2023 funds<sup>6</sup> and 0 prioritized days from obligated but not spent FY2023 funds after all carryover days were purchased. A total of 2,602 (2,538 + 64 + 0) agency-funded days are available for April 2024 through March 2025. Based upon an observer set-aside compensation rate analysis for the IFS Program, there is industry funding for 1,548 days for scallop fleets. Hence, 4,150 (2,602 + 1,548) days are available for observer coverage for April 2024 through March 2025.

Below is a summary of the 2 funding source categories: agency-funded and industry-funded. Within the agency-funded category, there are 7 subcategories: Atlantic Coast Observers, National Catch Share Program, National Observer Program, Northeast Fisheries Observers, Marine Mammal Protection Act (MMPA), Endangered Species Act (ESA) Annual Determination, and Reducing Bycatch.

- **Agency-funded:** The funding sources for the 2,602 agency-funded sea days include: Atlantic Coast Observers (653 days); Northeast Fisheries Observers (350 days); National Observer Program (887 days); Reducing Bycatch (52 days); National Catch Share Program (240 days); FY2023 obligated prioritized days (0 days) that were carried over/bought ahead; and FY2023 unachieved prioritized days (0 days) that were carried over/bought ahead. These combined sources fund the sea

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<sup>5</sup> See section 6.6.2.3 of the revised SBRM Omnibus Amendment (NEFMC et al. 2015) for a detailed description of the penultimate cell approach.

<sup>6</sup> The best estimate of the FY2023 carryover days is 64 days (30 MMPA and 34 ESA carryover days).

days for prioritization (2,181 days; Table 5, Step 7)<sup>7</sup>. In addition, there is funding from the MMPA (357 days), the FY2023 carryover/bought ahead MMPA days (30 days), and the FY2023 carryover/bought ahead ESA Annual Determination provision (34 days) to collectively fund the sea days to monitor protected species (421 additional days; Table 5, Step 7).

- 421 agency-funded days are applicable to protected species<sup>8</sup> only.
  - 350 MMPA days are associated with trips having a sampling protocol (NEFOP Limited) that is specific to protected species (marine mammals, sea turtles, ESA-listed fish species) and is not applicable for non-ESA-listed fish and invertebrates. Owing to the extra demands of monitoring protected species, information on finfish and shellfish discards is not collected on these trips. However, these days will provide observer coverage for sea turtles and ESA-listed fish species above that which is allocated for all species.
  - Funding equivalent to 37 days will be in support of observer data analysis.
  - 34 days are associated with the ESA Annual Determination provision to monitor MA state waters gillnet trips for sea turtle interactions. These trips follow the same sampling protocol as MMPA trips.
- 2,181 (2,602 – 421) agency-funded days are applicable for all species.
  - 2,181 days are subject to the prioritization process across all fleets. The prioritization approach is described in the next section and given in Table 6.
  - No sea days have been set aside to support discovery days to address emerging questions of scientific and management interest as the year progresses.
- There is a single provider for NEFOP sea days, and consequently, the projected costs (i.e., at-sea costs based on realized costs in FY2024) are confidential. An estimated rate for shoreside infrastructure that includes fixed and variable costs for operations, training, and data processing is \$600/day.
- **Industry-funded:** The number of industry-funded 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 IFS Program provides vessels with additional

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<sup>7</sup> Individual funding sources for agency-funded, prioritized sea days described in text are rounded to the nearest sea day equivalent, which causes their sum to differ from the aggregate sea day total in Table 5, Step 7.

<sup>8</sup> In this document, “protected species” refers to marine mammals, sea turtles, and ESA-listed fish.

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 coverage. 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 IFS fleets (Rows 12 and 36-43).

For the 2024 scallop fishing year (April 2024 through March 2025), the GB open area limited access trips will be observed at 15.9%, and MA open area limited access trips will be observed at 6.7%. The observer compensation rate in the access area is 250 lb/day for limited access vessels, and the observer coverage rate will be 8.8% in Area II and 10.1% in the New York Bight. There are 2 trips allocated in Area II (24,000 lb/full-time vessel) with a maximum possession limit per trip of 12,000 lb for limited access vessels and 1 trip allocated in the New York Bight with a maximum possession limit per trip of 12,000 lb. The limited access general category (LAGC) individual fishing quota (IFQ) fleet is allocated a total of 1,278,436 lb, with 856 access area trips available to use either in Area II, Area I, or the New York Bight. For LAGC IFQ vessels, the open area possession limit is 600 lb, and the access area possession limit is 800 lb. The observer coverage rate for LAGC IFQ vessels in the MA open area will be 5.1% and 9.4% in the GB open area. LAGC IFQ access area trips will be covered at 4% in the New York Bight and 5% in both Area I and Area II. The observer compensation rate for LAGC IFQ vessels is 250 lb/trip. The overall Northern Gulf of Maine Scallop Management Area (NGOM) total allowable catch for 2024 is 421,002 lb with a trip possession limit of 200 lb/day. The observer compensation rate for the NGOM is 125 lb/day at a target coverage rate of 2.7% and is only open to LAGC IFQ and LAGC NGOM permitted vessels in 2024 along with limited research set-aside compensation fishing.

- Based upon the compensation rate analysis and proposed Framework 38 allocations, a total of 1,548 sea days can be funded: 1,035 days for Open Areas, 131 days for MA Access Areas, and 382 days in the NE Access Areas, which includes 57 days for the NGOM (Table 7).
  - The industry-funded schedule runs from April through March.
  - Bulletins<sup>9</sup> describing the 2024 set-aside compensation rate calculations<sup>10</sup> and scallop management measure (Framework 38) are available online.
- Of the 1,035 days for the Open Areas, there are 99 days for LAGC fleets (Table 7, Rows 12, 40, and 41) and 936 days for Limited Access fleets (Table 7, Rows 42 and 43).

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<sup>9</sup> See [GARFO Framework 38 announcement](#).

<sup>10</sup> See GARFO [website](#) for compensation rate calculations.

- Coverage of the 9 fleets depends on industry activity among these fleets for April 2024 through March 2025; the sea days represent the maximum coverage (i.e., caps).
- Projected costs: the average cost to industry for the at-sea portion is \$797/day for IFS fleets. Additional agency funds are needed for training and certification of observers and data processing.

Below is a summary of sea days based on the agency budget and the compensation rate analysis by funding source for April 2024 through March 2025.

<b>Funding Source</b>	<b>Sea Days</b>
Agency-funded total	<b>2,602</b>
Agency-funded applicable to all species (prioritized days)	2,181
Agency-funded applicable to protected species only (non-prioritized days)	421
Industry-funded scallop total applicable to all species	<b>1,548</b>
<b>Total</b>	<b>4,150</b>

## **PRIORITIZATION TRIGGER AND DETAILS OF THE ALLOCATION OF SEA DAYS TO FLEETS**

Within the agency-funded fleets and prioritization-applicable funding, a funding shortfall of 5,227 (7,408 – 2,181) days is expected (Table 5). The 2024 funding shortfall triggers the SBRM prioritization approach; the prioritization approach is utilized with a portion of the agency funds.

The following describes the steps taken to allocate the 4,150 funded sea days (Tables 5-7).

Step 1. Derive the number of sea days needed for the 14 fish/invertebrate species groups (Table 5; the importance filter has been applied; see McAfee [2024] for the methods used in the sample size analyses).

Step 2. Apply the sea day adjustments to 11 “erroneous” fleets (Rows 9, 16, 18, 20-26, and 55). A total of 8,853 days is needed for fish/invertebrate species group across 47 fleets (38 agency-funded fleets and 9 IFS fleets; Table 5).

Step 3. Derive the number of sea days needed for TURS (Table 5; see Murray [2012, 2020, 2023] for the methods used in sample size analyses).

A total of 2,668 sea days is needed annually to monitor TURS interactions with 30% precision across bottom trawl fleets operating in the MA EPU (Murray 2020).

The 2,668 sea days were adjusted to account for the overlap of spatial strata when fish and TURS sea days are merged. The proportion of NE fishing effort in the MA EPU was estimated by using the VTR data from 2014-2018. Approximately 67% of NE small mesh otter trawl effort and 10% of NE large mesh otter trawl effort (in terms of days fished) occurred in the MA EPU. These proportions were applied to



the number of days needed to monitor fish in each of the NE otter trawl fleets (1026 and 595 days in the NE small mesh [Table 5, Row 7] and large mesh [Row 8] otter trawl fleets, respectively, yielding a total of 747 ( $[0.67 * 1026] + [0.10 * 595]$ ) days.

After adjusting, the total number of days needed to monitor TURS in the MA trawl fleets is 1,921 days ( $2,668 - 747$ ). The 1,921 days will be integrated with sea days needed for fish in the SBRM MA trawl fleets.

- Step 4. To integrate the monitoring needs of fish/invertebrates and TURS and to support the penultimate prioritization approach, derive the number of sea days needed for TURS for each of the fish/invertebrate fleets associated with the turtle gear types (Table 5).
- a. Summarize the number of VTR sea days corresponding to each fish/invertebrate fleet (see Table 3 in McAfee [2024]). The VTR sea days associated with the 11 “erroneous” fleets are given but not used (Table 5, Step 4a, gray-shaded cells).
  - b. Derive the percentage of VTR sea days for each fish/invertebrate fleet within the turtle gear type. For each fish/invertebrate fleet associated with the turtle gear type, divide the VTR sea days by the sum of the VTR sea days for the gear type.
  - c. Derive the percentage of sea days needed for fish/invertebrate for each fish/invertebrate fleet within the turtle gear type. For each fish/invertebrate fleet associated with a turtle gear type, divide the adjusted sea days (Step 2) by the sum of the sea days for the gear type.
  - d. Derive the number of additional sea days needed for TURS.

If the number of sea days needed for TURS is less than or equal to the sum of the sea days needed for the fish/invertebrate fleets associated with the turtle gear type, then no additional sea days are needed to monitor TURS. The additional sea days for TURS are set to 0 for fish/invertebrate fleets.

If the number of sea days needed for TURS is greater than the sum of the sea days needed for the fish/invertebrate fleets associated with the turtle gear type, then derive the difference between the sea days needed for TURS and the sum of the sea days needed for fish/invertebrates. For each turtle gear type, multiply the difference between the number of sea days needed by the percentage of VTR sea days for each fish/invertebrate fleet within the turtle gear type. These days represent the number of additional days needed to monitor TURS in the fish/invertebrate fleets.

- e. Derive the number of sea days needed for TURS by fish/invertebrate fleets.

If the number of sea days needed for TURS is less than or equal to the sum of the sea days needed for the fish/invertebrate fleets associated with the turtle gear type, then multiply the sea days needed for TURS by the percentage of sea

days needed for fish for each fish/invertebrate fleet within the turtle gear type (Step 4c).

If the number of sea days needed for TURS is greater than the sum of the sea days needed for the fish/invertebrate fleets associated with the turtle gear type, then add the sea days needed for fish/invertebrates (Step 2) and the additional days needed for TURS (Step 4d) for each fish/invertebrate fleet.

Step 5. Derive the number of sea days needed for fish/invertebrates and TURS COMBINED; select the larger of the 2 numbers of sea days (i.e., adjusted sea days needed for the 14 fish/invertebrate species groups [Step 2] and sea days needed for TURS [Step 4e]) within the fleet.

A total of 8,853 days is needed to achieve a 30% CV on the discards of the 15 species groups in 2024 (Table 5).

Step 6. Partition fleets into funding source categories and sum the number of sea days needed by funding source.

There were 7,408 days and 1,445 days needed to achieve a 30% CV for the 15 species groups for agency-funded and IFS fleets, respectively (Table 5).

Step 7. Obtain funded sea days by funding source category. For agency-funded sea days, calculate the number of sea days applicable to the prioritization process (prioritized versus non-prioritized days).

There are 2,181 agency-funded days applicable to the prioritization process (Table 5).

Step 8. Evaluate needed sea days versus funded sea days for each funding category, and calculate shortfall or surplus sea days associated with the prioritization process.

A funding shortfall of 5,227 days is expected for agency-funded fleets (Table 5).

Step 9. Apply the penultimate approach algorithm to allocate sea days to fleets for agency-funded days that are applicable to the prioritization process.

As described in the revised SBRM Omnibus Amendment (NEFMC et al. 2015), the number of agency-funded sea days applicable to the prioritization process is assigned to each fleet (fishing mode) after sequentially removing the sea days needed for the species group/fleet with the highest sea day difference between adjacent species groups within a fleet until the sea day shortfall is removed.

The following describes the steps taken to assign the agency-funded sea days applicable to the prioritization process by using the penultimate approach (Table 6).

Step 9.1. For each agency-funded fleet where sea days are needed, list the sea days needed for the 15 species groups (fish/invertebrates and TURS) in descending order within a fleet (Table 6). The minimum pilot days (Table 4) serve as the minimum sea days needed for fleets.

Step 9.2. Calculate the differences in sea days between adjacent species groups within each agency-funded fleet (Table 6).

Step 9.3. Within the resulting matrix of sea day differences (Step 9.2), identify the largest difference and remove the sea days associated with the species group accounting for this difference (Table 6).

Repeat this process for the next largest difference, with the constraint that the differences are taken in penultimate order (from left to right in the matrix) within a fleet, until the cumulative reduction of sea days equals the sea day shortfall (Step 8). If the reduction in sea days by using the next largest (penultimate) value is greater than the shortfall, reduce the number of sea days only enough to remove the shortfall. If there is a tie in sea day differences between adjacent species groups (e.g., 2 fleets with the same sea day difference), then select the fleet with the largest penultimate sea days first to break the tie<sup>11</sup>.

The 2024 sea day shortfall is 5,227 days.

- The 3,525 days (red deepsea crab [*Chaceon quinquegens*; RCRAB]; Tables 4, 5, and 6, Row 5) associated with the largest sea day difference (1,944 days) between adjacent species groups is removed first (Table 6). The penultimate value in Row 5 is associated with TURS (1,581 days; Tables 5 and 6).
- The 1,581 days (TURS; Tables 5 and 6, Row 5, a fleet that has already been prioritized) associated with the second largest sea day difference (670 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 5 is associated with Squid-Butterfish-Mackerel (*Doryteuthis [Amerigo] pealeii*, *Illex illecebrosus*, *Peprilus triacanthus*, *Scomber colias*, *Scomber scombrus*; SBM; 911 days; Tables 4 and 6).
- The 1,026 days (small mesh groundfish [GFS]; Tables 4, 5, and 6, Row 7) associated with the third largest sea day difference (385 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 7 is associated with monkfish (*Lophius americanus*; MONK; 641 days; Tables 4 and 6).

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<sup>11</sup> The SBRM Amendment does not describe how to handle ties. This approach was selected because it has the potential to impact the fewest number of species groups compared to other approaches of dealing with ties.

- The 728 days (MONK; Tables 4, 5, and 6, Row 6) associated with the fourth largest sea day difference (242 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 6 is associated with spiny dogfish (*Squalus acanthias*; DOG; 486 days; Tables 4 and 6).
- The 486 days (DOG; Tables 4, 5, and 6, Row 6, a fleet that has already been prioritized) associated with the fifth largest sea day difference (159 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 6 is associated with TURS (327 days; Tables 5 and 6).
- The 327 days (TURS; Tables 5 and 6, Row 6, a fleet that has already been prioritized) associated with the sixth largest sea day difference (208 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 6 is associated with Fluke-Scup-Black sea bass (*Paralichthys dentatus*, *Stenotomus chrysops*, *Centropristis striata*; FSB; 119 days; Tables 4 and 6).
- The 169 days (DOG; Tables 4, 5, and 6, Row 28) associated with the seventh largest sea day difference (156 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 28 is associated with minimum pilot coverage (MPC; 13 days; Tables 4 and 6).
- The 205 days (skate complex [Rajidae]; SKATE; Tables 4, 5, and 6, Row 33) associated with the eighth largest sea day difference (116 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 33 is associated with MONK (89 days; Tables 4 and 6).
- The 137 days (DOG; Tables 4, 5, and 6, Row 32) associated with the ninth largest sea day difference (116 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 32 is associated with MPC (21 days; Tables 4 and 6).
- The 641 days (MONK; Tables 4, 5, and 6, Row 7, a fleet that has already been prioritized) associated with the tenth largest sea day difference (114 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 7 is associated with DOG (527 days; Tables 4 and 6).
- The 911 days (SBM; Tables 4, 5, and 6, Row 5, a fleet that has already been prioritized) associated with the eleventh largest sea day difference (109 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 5 is associated with MONK (802 days; Tables 4 and 6).
- The 802 days (MONK; Tables 4, 5, and 6, Row 5, a fleet that has already been prioritized) associated with the twelfth largest sea day difference (420 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 5 is associated with SKATE (382 days; Tables 4 and 6).

- The 527 days (DOG; Tables 4, 5, and 6, Row 7, a fleet that has already been prioritized) associated with the thirteenth largest sea day difference (86 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 7 is associated with SKATE (441 days; Tables 4 and 6).
- The 441 days (SKATE; Tables 4, 5, and 6, Row 7, a fleet that has already been prioritized) associated with the fourteenth largest sea day difference (176 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 7 is associated with large mesh groundfish (GFL; 265 days; Tables 4 and 6).
- The 595 days (GFL; Tables 4, 5, and 6, Row 8) associated with the fifteenth largest sea day difference (71 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 8 is associated with FSB (524 days; Tables 4 and 6).
- The 524 days (FSB; Tables 4, 5, and 6, Row 8, a fleet that has already been prioritized) associated with the sixteenth largest sea day difference (89 days) between adjacent species groups is removed next (Table 6). The penultimate value in Row 8 is associated with DOG (435 days; Tables 4 and 6).
- Removing the 435 days (DOG; Tables 4, 5, and 6, Row 8, a fleet that has already been prioritized) associated with the seventeenth largest sea day difference (245 days) between adjacent species groups would remove more sea days than needed to reach the shortfall amount of 5,227 days (Table 6). Thus, only 166 of the 245 sea day difference between adjacent species groups (435 days for the DOG and 190 days for GFS) are needed (Table 6). The penultimate value for Row 8 becomes 269 (435 – 166) days for DOG.

Step 9.4. After the removal of sea days within a fleet (Step 9.3), the remaining highest sea days (i.e., the penultimate or the value farthest to the left in Step 9.1) becomes the **PRIORITIZED** sea days required for that fleet.

The 2,181 prioritized sea days provide observer coverage to all 38 agency-funded fleets that were not identified as “erroneous” in Step 2. Thirty-one of these fleets did not have their sea days reduced under the prioritization process, while 7 fleets (Rows 5-8, 28, 32, and 33) were allocated fewer sea days than what is needed to achieve a 30% CV. The prioritized sea days for Rows 5-8, 28, 32, and 33 become 382, 119, 265, 269, 13, 21, and 89, respectively (Table 6). The MA small mesh otter trawl fleet (Row 5) is expected to exceed a 30% CV for RCRA, TURS, SBM, and MONK. The MA large mesh otter trawl fleet (Row 6) is expected to exceed a 30% CV for MONK, DOG, and TURS. The NE small mesh otter trawl fleet (Row 7) is expected to exceed a 30% CV for GFS, MONK, DOG, and SKATE. The NE large mesh otter trawl fleet (Row 8) is expected to exceed a 30% CV

for GFL, FSB, and DOG. The MA small mesh gillnet fleet (Row 28) is expected to exceed a 30% CV for DOG, the NE large mesh gillnet fleet (Row 32) is expected to exceed a 30% CV for DOG, and the NE extra large mesh gillnet fleet (Row 33) is expected to exceed a 30% CV for SKATE.

Step 9.5. Identify fleets that cannot be covered by the observer program this year. In 2024, there are practical limitations that prevent the observer program from covering 4 fleets (Table 7, rose-shaded cells, NE floating trap [Row 27], MA purse seine [Row 34], MA small mesh Scottish seine [Row 54], and NE other dredge [Row 56]). The observer program currently has no sampling protocols in place for these fleets and will need time to create new trainings, logs, and/or databases to support sampling in these fleets. It is unlikely that the observer program will be able to make significant changes to the observer databases or observer manuals this year. The 36 prioritized sea days associated with the 4 fleets have been reallocated to the NE large mesh otter trawl fleet (Row 8), the last fleet impacted by the prioritization process. The NE large mesh otter trawl fleet (Row 8) now has 305 (269 + 36) days; however, it is still expected to exceed the 30% CV for GFL, FSB, and DOG. The 4 fleets with practical limitations have 0 days (Table 7).

Step 10. Allocate agency-funded, non-prioritized sea days.

There are 421 agency-funded days that are not applicable to the prioritization process (non-prioritized MMPA and ESA days; Table 7).

Of the 387 MMPA sea days, 350 MMPA days, all assumed to have limited sampling protocols, are allocated to a row designated as “MMPA coverage” and will be associated with the MA and NE gillnet fleets (Table 7, Rows 28-33). The funding equivalent of 37 MMPA sea days are assigned to a row designated as “MMPA analysis.” The 34 ESA days, all assumed to have limited sampling protocols, are allocated to a row designated “ESA coverage” and will be associated with MA large and extra large mesh gillnet fleets (Rows 29 and 30).

Step 11. Allocate IFS days. The sea days for the IFS fleets are assigned to trips via the PTNS. The sea day coverage for IFS fleets will depend on industry activity from April 2024 through March 2025 and will be capped as described above. Because of differences in stratification between the SBRM and scallop compensation rate analyses, the 1,548 IFS sea days have not been allocated to individual fish/invertebrate fleets but rather to groups of fish/invertebrate fleets that correspond to the stratification used in the compensation rate analysis: MA Access Area fleets (Rows 36 and 38; Table 7); Open Areas fleets (Rows 12, 40, and 41 for Limited Access General Category fleets and Rows 42 and 43 for Limited Access; Table 7); and NE Access Area fleets (Rows 37 and 39; Table 7). The allocated sea days

represent the maximum coverage (i.e., caps). The NGOM fleet has been grouped with the NE Access Area fleets.

IFS sea days are expected to meet or exceed the SBRM required sea days for each fleet group corresponding to the stratification used in the compensation rate analysis (Table 7).

Step 12. The sea days allocated for April 2024 through March 2025 (TOTAL) is the sum of the prioritized days (Step 9.5), non-prioritized days (Step 10), and IFS days (Step 11). A total of 4,150 days is allocated across 43 fleets (Table 7).

The agency-funded fleets with \* or \*\* (Table 7) indicate that all or some of the observer coverage will be assigned via the PTNS (Palmer et al. 2013). This designation means all or some of the observer coverage within each of these fleets will depend upon industry activity for April 2024 through March 2025. The PTNS sea days for agency-funded fleets will be proportionally allocated based initially on previous year's industry activity and then adjusted to correspond to current year's activity.

All other fleets will have sea days assigned to fishing trips via the NEFOP Sea Day Schedule. The prioritized sea days on the NEFOP Sea Day Schedule are provided by fleet. A matrix of VTR trip percentages by quarter and state within a fleet based on July 2022 through June 2023 data is provided as information on previous industry activity patterns. This information does not replace the third-party provider's local knowledge of current industry activity.

## TRIP SELECTION SYSTEMS

Approved observer service provider companies, under federal contract with FMRD, hire and deploy observers in accordance with FMRD protocols to achieve the annual SBRM sea day allocation. The observer program uses 2 systems to select commercial fishing trips in the Greater Atlantic region (Maine to North Carolina) for observer coverage: (1) the PTNS and (2) the NEFOP Sea Day Schedule, which has selection protocols that include selection by phone, email, letter, Vessel Monitoring System (VMS) message, or in person at the docks (dock intercept). These selection systems support 3 sampling designs (NEFOP<sup>12</sup>, NEFOP Limited<sup>13</sup>, and IFS<sup>14</sup>; Figure 1). 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.

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<sup>12</sup> Agency-funded, prioritized sea days use NEFOP sampling design

<sup>13</sup> Agency-funded, non-prioritized sea days (including MMPA and ESA days) use NEFOP Limited sampling design

<sup>14</sup> Industry-funded sea days use IFS Program sampling design

Trip selections systems will be significantly modernized this year with the IFS Program transition from using the interactive voice response call-in system to the PTNS for trip notification and observer selection<sup>15</sup> starting in the upcoming SBRM year (April 2024 through March 2025). All Atlantic sea scallop (*Placopecten magellanicus*) FMP (i.e., IFS fleets) trips beginning on or after April 1, 2024, must notify the PTNS between 10 days and 48 hours in advance of a trip. The PTNS now serves as the notification and observer deployment system for 3 FMPs (Northeast Multispecies [NMS; groundfish], Atlantic herring [HER; *Clupea harengus*], and Atlantic sea scallop), which helps standardize how observers are deployed in the region.

## Identification of Fishing Trips

Commercial fishing trips in the VTR dataset and associated with FMPs that have pre-trip notification requirements are identified by using the VTR database, the PERMIT database, and the VMS declaration codes in the Allocation Management System database. The operational criteria used to identify VTR trips with pre-trip notification requirements are:

- Atlantic Sea Scallop FMP’s PTNS requirements
  - Trips using either scallop trawl or scallop dredge (VTR gear codes “OTC,” “DRS,” “DTC,” “DSC,” and “DTS”)
- NMS FMP’s PTNS requirements
  - Trips using bottom trawl, longline, handline, fish pot, or gillnet gear, and
    - VMS plan code of “NMS”; or
    - VMS plan code of “MNK” and a non-suppressed multispecies charge<sup>16</sup>; or
    - 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.
- HER 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.

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<sup>15</sup> For further information, see [NEFSC announcement of IFS Program transition to PTNS](#).

<sup>16</sup> When a vessel declares a monkfish trip and also holds a NMS 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.



- 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 “OTM” [midwater trawl], or VTR gear code “PTM” [paired midwater trawl], 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 PTNS. However, for the NMS and HER FMPs, trips with pre-trip notification requirements are identified as described above.

## Partitioning Agency-Funded (Prioritized) and IFS Sea Days Among Selection Systems

Table 8 presents the number of sea days allocated in a fleet or fleet group for April 2024 through March 2025 (Column A; taken from Step 12, Table 7), the associated number of observed trips (Column B), and the number of VTR days and trips (Columns C and D, respectively) from July 2022 through June 2023 (see Tables 2 and 3 in McAfee [2024]). The allocated sea days and trips can be translated into expected observer coverage (Columns E and F, respectively) by dividing the 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 because future activity is not known; therefore, the expected observer percentages are conditional.

The scallop FMP pre-trip notification requirement applies to trips using scallop trawl and scallop dredge gear, a distinct set of fleets that apply only to the IFS Program. Therefore, all IFS sea days are assigned to trips via the PTNS (Table 9, Columns A and I, Rows 12 and 36-43). For the rest of the fleets (Tables 8 and 9, Rows 1-11, 13-35, and 44-58) with and without FMP pre-trip notification requirements (NMS and HER FMPs), the following steps are taken to apportion the allocated sea days (Table 9, Column A) among the PTNS (Table 9, Columns J and K for NMS FMP and HER FMP, respectively) and the Sea Day Schedule (Table 9, 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 (Table 8, Column D).

*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 ( $10/40 = 0.25$ ).*

- In Table 9, the fraction of VTR activity subject to NMS FMP pre-trip notification requirements is given in Column G, and the fraction of VTR activity subject to the HER FMP is given in Column H.

- 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 (Table 9, Column G for NMS FMP and Column H for HER FMP) by the total number of allocated sea days within each fleet (Table 9, Column A), and round to whole days. The remaining sea days in the fleet are assigned to the Sea Day Schedule (Table 9, Column L).

*For example, if there are 32 allocated 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. The remaining 24 (32 - 8) sea days would be apportioned to the Sea Day Schedule.*

Table 9 presents the number of 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 HER FMP pre-trip notification requirement (Column H), and the number of sea days for April 2024 through March 2025, 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 sea days assigned to the PTNS system are given in Column I. Sea days apportioned to the PTNS that will be assigned to fleets with NMS FMP pre-trip notification requirements are given in Column J; sea days apportioned to the PTNS that will be assigned to fleets with HER FMP pre-trip notification requirements are given in Column K. Sea days apportioned to the Sea Day Schedule are given in Column L<sup>17</sup>. A total of 1,548 industry-funded sea days will be assigned to selected IFS trips via the PTNS system; 540 agency-funded, prioritized sea days will be assigned to selected trips via the PTNS (464 sea days in fleets with NMS FMP PTNS requirements and 76 sea days in fleets with HER FMP pre-trip notification requirements). A total of 1,641 agency-funded, prioritized sea days will be assigned to selected trips via the Sea Day Schedule (Table 9). 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 (IFM) 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 sea day accomplishments because percent coverage may lead to over or under sampling of SBRM requirements. The actual amount of coverage each fleet will receive is unknown at the start of the sampling period. For each fleet that contains trips with NMS FMP pre-trip notification requirements, the expected coverage of trips with NMS FMP pre-trip notification requirements (Table 9, Column M) is derived by dividing the apportioned PTNS sea

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<sup>17</sup> If the sea days apportioned to the Sea Day Schedule (Table 9, Column L) are fewer than the mean trip length for the fleet, then those sea days are reassigned to the PTNS (Table 9, Column J or K). Rows 17 and 19 were reassigned to NEFOP PTNS for NMS FMP and Row 44 was reassigned to NEFOP PTNS for HER FMP.

days for NMS FMP (Table 9, Column J) by the product of the VTR activity from July 2022 through June 2023 (Table 8, Column C) and the fraction of VTR activity subject to pre-trip notification requirements for NMS FMP (Table 9, Column G). All expected levels are conditional upon VTR activity. See the Appendix for step through calculations for 3 selected fleets.

These same steps are taken for the HER FMP. The expected coverage of trips with pre-trip notification requirements for HER FMP (Table 9, Column N) is derived by dividing the apportioned PTNS sea days for HER FMP (Table 9, Column K), by the product of the VTR activity (Table 8, Column C) and the fraction of VTR activity subject to pre-trip notification requirements for the HER FMP (Table 9, Column H).

The calculations of expected coverage are made at the fleet level and not designed to specify the contribution of sea days for FMP-specific IFM combined targets, which apply to only a subcomponent of fleets and a subcomponent of trips with FMP-specific pre-trip notification requirements. Once a sampling program is underway, coverage rates are monitored and adjusted as needed in order to optimize sea day accomplishments.

## **Partitioning Agency-Funded (Non-Prioritized) Sea Days Among Selection Systems**

The MMPA sea days are allocated specifically for marine mammal bycatch estimates similarly to Rossman (2007). Of the 387 MMPA days, there are 111 sea days assigned to the PTNS and 239 sea days assigned to the Sea Day Schedule. There are 37 days for analysis that are not assigned. The 111 PTNS assigned sea days will be deployed on declared NE groundfish gillnet trips<sup>18</sup>, and the 239 Sea Day Schedule sea days will be assigned to the remaining gillnet fleets (Table 10). The fraction of industry activity subject to NMS FMP pre-trip notification requirements during the SBRM year is used to apportion the 111 PTNS assigned MMPA sea days among the gillnet fleets (stratified by mesh size groups). The expected observer coverage for these fleets is derived by dividing the apportioned MMPA sea days in the fleet by industry activity in the previous SBRM year. Of the 239 MMPA Schedule sea days, 198 days are apportioned among gillnet fleets in the MA region and 41 sea days are apportioned among the NE region based on previous gillnet industry activity. Of the 198 MA sea days, 122 are allocated to the state of Virginia stratified by geographical area and water body. Another 49 days are allocated to North Carolina stratified by geographical area, mesh size, water body, and distance from shore. The remaining 27 days tasked to the MA are allocated to New Jersey, Delaware, and North Carolina and are stratified by mesh size. In the NE region, the remaining 41 days are apportioned among gillnet fleets stratified by mesh size groups. Table 10 presents the MMPA observer sea days allocated to the gillnet fleets by selection system for April 2024 through March 2025. The expected observer coverage for gillnet fisheries that have NMS FMP pre-trip notification requirements by fleet (Table 10) are used to inform the initial 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 and is conditional upon industry activity. Once a sampling program is under way, coverage rates are monitored and adjusted as needed in order to optimize sea day

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<sup>18</sup> PTNS-deployed MMPA sea days cover declared groundfish trips fishing in the NE region, regardless of port of departure.

accomplishments. MMPA sea days do not contribute toward SBRM or IFM requirements because of differences in sampling protocols.

This year, 34 sea days were funded through NMFS for the ESA's Annual Determination provision to cover the MA gillnet fleet that was relisted for another 5-year term. No days were set aside for an analysis. The 34 sea days will be assigned to the sea day schedule from June 2024 to October 2024 to monitor for potential sea turtle interactions in state waters where coverage has historically been low (Table 11). Due to the nature of the coverage, the NEFOP Limited sampling design will be utilized in order to more effectively identify turtle interactions with 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 FMP-specific IFM requirements because of the differences in sampling protocols.

## **Selection System Operational Notes**

- Sea days may be translated into an 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 PTNS observer coverage by fleet (Table 9) is used as a starting point (initial seed) for PTNS and will be adjusted throughout the year to achieve the required number of sea days. The realized observer coverage (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 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 interval and make small shifts if necessary to meet required sea days for a given fleet. Shifts in sea days within PTNS between SBRM and other FMP-specific IFM programs will not occur unless shifting is necessary to support timely certification of trainees.
- With the NEFMC's IFM Omnibus Amendment to 6 FMPs, there is potential for additional FMP-specific IFM 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.

## **DISCUSSION**

The sample size analysis conducted by McAfee (2024) derived the expected CV of the discard estimates for various species groups over a range of sample sizes for each of the species groups that were not filtered out by the importance filter (see Table 7 and Figure 3 in McAfee

[2024]). Deriving the expected CV assumes the variance of the discard estimate is constant over a range of sample sizes (number of trips). The results of the fish/invertebrate sample size analysis influence the outcome of the prioritization process from year to year depending on available funding, the rank order of sea days needed by species group, and the sea day differences between adjacent species groups within each fleet. All of these factors (both within and between fleets) dictate the outcome of the penultimate approach algorithm and ultimately determine which fleets have fewer sea days allocated to them in order to address the funding shortfall. The funding shortfall in 2024 triggered the prioritization process which reduced the sea day spike in MA small mesh otter trawl fleet (Row 5) driven by red deepsea crab from 3,525 to 382 sea days (now driven by the skate complex). Generally, the prioritization process was limited to trawl and gillnet fleets with estimations of sea days needed to meet a 30% CV for multiple species groups (Table 4). Also of note this year is the allocation of sea days to the NE hagfish pots and traps fleet for the first time since 2019.

Unlike the past several annual SBRM analyses, there weren't any prioritized carryover days from unaccomplished sea days from April 2023 through March 2024 or prioritized days from obligated but not spent funds available. Consequently, all prioritized sea days (2,181) for April 2024 through March 2025 sea day needs were from fiscal year 2024 funding.

At-Sea Monitoring (ASM) coverage associated with the NMS (groundfish) FMP is used for compliance monitoring of Annual Catch Entitlements and is not used to meet SBRM sea day requirements. To reduce potential bias within SBRM, data associated with ASM were not used in the 2024 fish/invertebrate analyses (McAfee 2024) because these trips may have different goals/objectives and/or different stratification/sea day allocations than the other NEFOP and IFS trips. Data collected from electronic monitoring (EM) programs, which serve as an alternative to ASM, were not included, but NEFOP data collected from vessels participating in EM programs were used in the analyses. This approach follows the 2018 SBRM Fishery Management Action Team recommendation to exclude individual FMP compliance monitoring trips from future annual discard estimation, precision, and sample size analyses for fish/invertebrate species groups (Hogan et al. 2019).

The SBRM analyses use final data and are predicated upon accurately reported and audited data. To reduce or prevent "erroneous" fleets, the final VTR data would benefit from enhanced data auditing (including data leverage between data collection systems) coupled with targeted outreach and education to industry members on the importance of accurate reporting. Additionally, gear code consistency is needed between the fishery-dependent data collection systems (Observer, VTR, and Commercial Fisheries databases).

As a practical matter, fleets with low trip activity within a quarter or overall are very difficult to identify and cover unless they have a pre-trip notification requirement. Attempts to assign observers can be inefficient since the probability of randomly finding such trips at a specific port or time period will be very low. While some of the challenges may be overcome with outreach, vessel selection letters, and other operational efforts, some fleets may fall below practical detection limits, and therefore some of the sea days associated with low trip activity fleets may not be accomplished.

## **Expanded Sampling Frame for Lobster Pot Fleets**

Beginning April 1, 2024, the sampling frame for lobster pot fleets will be expanded to include all federal lobster permit holders, and these vessels will be eligible for NEFOP observer

coverage. This is in response to the interim final rule<sup>19</sup> that NMFS published in October 2023 that follows recommendations from the Atlantic States Marine Fisheries Commission and implements mandatory electronic VTR reporting requirements for all federal lobster permit holders through Addendum XXVI to Amendment 3 to the Interstate Fishery Management Plan for American Lobster/Addendum III to the Interstate Fishery Management Plan for Jonah Crab. Therefore all active federal lobster vessels will be eligible for selection to take a NEFOP observer this upcoming SBRM year (April 2024 to March 2025). This will not change the number of sea days needed for April 2024 through March 2025. The rest of the SBRM fleets did not need to have the sampling frame expanded because these vessels have existing VTR reporting requirements associated with their federal fishing permits, and their fishing trips are already included in the SBRM sampling frame.

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<sup>19</sup> For further information, see [Federal Register RIN 0648-BF01](#).

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**Table 1. A list of the 14 fish and invertebrate species groups and 1 species of sea turtle (in bold), with species group abbreviations in parentheses and scientific names in italics. The species that compose these groups correspond to the 13 federal fishery management plans implemented in the waters off the northeastern United States.**

<b>Species/Group</b>	<b>Scientific Name</b>
<b>ATLANTIC HERRING (HERR)</b>	<i>Clupea harengus</i>
<b>ATLANTIC SALMON (SAL)</b>	<i>Salmo salar</i>
<b>BLUEFISH (BLUE)</b>	<i>Pomatomus saltatrix</i>
<b>FLUKE - SCUP - BLACK SEA BASS (FSB)</b>	
Black sea bass	<i>Centropristis striata</i>
Fluke	<i>Paralichthys dentatus</i>
Scup	<i>Stenotomus chrysops</i>
<b>LARGE MESH GROUND FISH (GFL)</b>	
Acadian redfish	<i>Sebastes fasciatus</i>
American plaice	<i>Hippoglossoides platessoides</i>
Atlantic cod	<i>Gadus morhua</i>
Atlantic halibut	<i>Hippoglossus hippoglossus</i>
Atlantic wolffish	<i>Anarhichas lupus</i>
Haddock	<i>Melanogrammus aeglefinus</i>
Ocean pout	<i>Zoarces americanus</i>
Pollock	<i>Pollachius virens</i>
White hake	<i>Urophycis tenuis</i>
Windowpane flounder	<i>Scophthalmus aquosus</i>
Winter flounder	<i>Pseudopleuronectes americanus</i>
Witch flounder	<i>Glyptocephalus cynoglossus</i>
Yellowtail flounder	<i>Limanda ferruginea</i>
<b>MONKFISH (MONK)</b>	<i>Lophius americanus</i>
<b>RED DEEPSEA CRAB (RCRAB)</b>	<i>Chaceon quinquegens</i>
<b>SEA SCALLOP (SCAL)</b>	<i>Placopecten magellanicus</i>
<b>SKATE COMPLEX<sup>20</sup> (SKATE)</b>	Rajidae
Barndoor skate	<i>Dipturus laevis</i>
Clearnose skate	<i>Raja eglanteria</i>
Little skate	<i>Leucoraja erinacea</i>
Rosette skate	<i>Leucoraja garmani</i>
Smooth skate	<i>Malacoraja senta</i>
Thorny skate	<i>Amblyraja radiata</i>
Winter skate	<i>Leucoraja ocellata</i>
<b>SMALL MESH GROUND FISH (GFS)</b>	
Offshore hake	<i>Merluccius albidus</i>
Red hake	<i>Urophycis chuss</i>
Silver hake	<i>Merluccius bilinearis</i>
<b>SPINY DOGFISH (DOG)</b>	<i>Squalus acanthias</i>
<b>SQUID<sup>21</sup> - BUTTERFISH - MACKEREL (SBM)</b>	
Atlantic chub mackerel	<i>Scomber colias</i>
Atlantic mackerel	<i>Scomber scombrus</i>
Butterfish	<i>Peprilus triacanthus</i>
Longfin inshore squid	<i>Doryteuthis (Amerigo) pealeii</i>
Northern shortfin squid	<i>Illex illecebrosus</i>
<b>SURFLAM - OCEAN QUAHOG<sup>22</sup> (SCOQ)</b>	
Surfclam	<i>Spisula solidissima</i>
Ocean quahog	<i>Arctica islandica</i>
<b>TILEFISH<sup>23</sup> (TILE)</b>	
Blueline tilefish	<i>Caulolatilus microps</i>
Golden tilefish	<i>Lopholatilus chamaeleonticeps</i>
<b>LOGGERHEAD TURTLE (TURS)</b>	<i>Caretta caretta</i>

<sup>20</sup> Skate complex is composed of 7 species as well as skate, unknown, and little/winter mixed skate. Individual species are not summarized separately.

<sup>21</sup> Squid, unclassified is included in this species group. Longfin inshore squid and northern shortfin squid are also known as Loligo squid and Illex squid, respectively.

<sup>22</sup> In this analysis, surfclams and ocean quahogs compose the species group and are not reported separately.

<sup>23</sup> Tilefish, unclassified is included in this species group.

**Table 2. Total catch (live lb), Vessel Trip Report landings (kept; live lb), estimated discards (live lb), associated coefficient of variation (CV), and standard error (SE) of the estimated discards (live lb) for 14 Standardized Bycatch Reporting Methodology (SBRM) species groups combined, by fleet, based on July 2022 through June 2023 data. Dark shading indicates fleets not considered or with no observed trips in the annual analysis. These CVs were not used in the annual sample size analysis. Blank CV indicates either no discards or discards equaling 0. See Appendix Table 1 for fleet stratification abbreviations; “P” indicates fleets with “pilot” designation. Taken from Table 5C in McAfee (2024).**

**Species: 14 SBRM SPECIES GROUPS COMBINED**

Row	Fleet					Total	Kept	Discarded	CV	SE	Pilot
	Gear Type	Access Area	Trip Category	Region	Mesh Group						
1	Longline, Bottom	OPEN	all	MA	all	1,487,181	1,438,992	48,189	0.831	40,066	
2	Longline, Bottom	OPEN	all	NE	all	1,461,834	1,385,424	76,410	1.139	87,048	
3	Hand Line	OPEN	all	MA	all	271,776	226,924	44,852	0.619	27,770	
4	Hand Line	OPEN	all	NE	all	1,383,895	1,366,456	17,439	0.516	8,992	
5	Otter Trawl	OPEN	all	MA	sm	34,071,721	21,394,731	12,676,990	0.111	1,405,719	
6	Otter Trawl	OPEN	all	MA	lg	26,456,874	13,262,373	13,194,501	0.153	2,018,755	
7	Otter Trawl	OPEN	all	NE	sm	58,980,380	38,719,791	20,260,589	0.120	2,429,978	
8	Otter Trawl	OPEN	all	NE	lg	61,108,380	45,148,721	15,959,659	0.105	1,667,956	
10	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	sm	3,500,511	3,056,393	444,118	0.112	49,672	P
13	Otter Trawl, Twin	OPEN	all	MA	sm	1,435,361	822,156	613,205	0.261	159,788	
14	Otter Trawl, Twin	OPEN	all	MA	lg	441,442	115,075	326,367	0.064	20,929	P
15	Otter Trawl, Twin	OPEN	all	NE	sm	2,351,747	1,696,807	654,940	0.278	182,369	
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	967,677	967,677				P
19	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	2,194,998	1,578,424	616,573	0.176	108,469	
20	Otter Trawl, Shrimp	OPEN	all	MA	sm	76,073	76,073				P
22	Otter Trawl, Other	OPEN	all	MA	sm	1,751,038	1,751,038				P
23	Otter Trawl, Other	OPEN	all	MA	lg	1,558,389	1,558,389				P
24	Otter Trawl, Other	OPEN	all	NE	sm	1,698,670	1,698,670				P
25	Otter Trawl, Other	OPEN	all	NE	lg	323,822	323,822				P
27	Floating Trap	OPEN	all	NE	all	14	14				P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	3,428,225	3,247,661	180,563	0.957	172,806	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	5,465,234	5,261,596	203,638	0.122	24,765	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	1,872,483	1,729,292	143,191	0.385	55,132	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	65,172	65,172				P
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	5,214,672	4,342,894	871,778	0.407	354,624	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	14,416,704	12,807,058	1,609,646	0.301	485,263	
34	Purse Seine	OPEN	all	MA	all	0	0				P

Fleet						Total	Kept	Discarded	CV	SE	Pilot
Row	Gear Type	Access Area	Trip Category	Region	Mesh Group						
35	Purse Seine	OPEN	all	NE	all	2,015,512	2,015,490	22	0.304	7	
36	Dredge, Scallop	AA	GEN	MA	all	14,578	14,578				P
37	Dredge, Scallop	AA	GEN	NE	all	10,958,902	9,219,495	1,739,407	0.108	187,760	
38	Dredge, Scallop	AA	LIM	MA	all	8,765,150	8,409,296	355,854	0.000	0	P
39	Dredge, Scallop	AA	LIM	NE	all	90,328,570	77,276,028	13,052,542	0.105	1,369,196	
40	Dredge, Scallop	OPEN	GEN	MA	all	6,308,849	5,138,524	1,170,325	0.111	129,453	
41	Dredge, Scallop	OPEN	GEN	NE	all	8,061,623	6,883,335	1,178,288	0.324	381,559	
42	Dredge, Scallop	OPEN	LIM	MA	all	8,296,101	7,924,868	371,233	0.528	196,114	P
43	Dredge, Scallop	OPEN	LIM	NE	all	144,450,411	125,127,212	19,323,199	0.122	2,351,156	
44	Trawl, Midwater	all	all	NE	sm	19,757,818	19,754,707	3,111	0.428	1,332	
45	Pots and Traps, Fish	OPEN	all	MA	all	775,949	608,862	167,087	0.175	29,314	
46	Pots and Traps, Fish	OPEN	all	NE	all	750,384	550,333	200,051	0.450	90,037	
47	Pots and Traps, Conch	OPEN	all	MA	all	1,871	1,820	51	0.859	44	
48	Pots and Traps, Conch	OPEN	all	NE	all	9,156	2,323	6,833	0.515	3,518	
50	Pots and Traps, Lobster	OPEN	all	MA	all	208,962	167,046	41,916	0.693	29,054	
51	Pots and Traps, Lobster	OPEN	all	NE	all	793,411	65,026	728,385	0.435	316,666	
52	Pots and Traps, Crab	OPEN	all	MA	all	0	0				P
53	Pots and Traps, Crab	OPEN	all	NE	all	5,833,700	4,631,081	1,202,619	0.201	241,175	
55	Dredge, Other	OPEN	all	MA	all	93,456	93,456				P
56	Dredge, Other	OPEN	all	NE	all	264,863	264,863				P
57	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	201,989,068	198,526,482	3,462,586	0.583	2,017,335	
58	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	164,118,426	163,825,804	292,621	0.309	90,550	
Confidential fleets						130,407	130,407				
Other minor fleets						1,580,169	1,580,169				
TOTAL						907,491,607	796,252,827	111,238,779	0.047	5,205,894	

**Table 3. The most recent average annual estimates and 5-year pooled estimates of sea turtle (Loggerhead [*Caretta caretta*], Kemp’s ridley [*Lepidochelys kempii*], Leatherback [*Dermochelys coriacea*], and Green [*Chelonia mydas*]) interactions and their associated coefficient of variation (CV) in U.S. commercial fisheries.**

<b>Fishery</b>	<b>Average Annual Estimate</b>	<b>5-Year Estimate</b>	<b>CV</b>	<b>Years Included</b>	<b>Species*</b>	<b>Reference</b>
Bottom trawl, for fish and scallops, Mid-Atlantic	114	571	0.29	01 Jan 2014-2018	Loggerhead	Murray 2020
Bottom trawl, for fish and scallops, Mid-Atlantic	9	46	0.45	01 Jan 2014 - 2018	Kemp’s ridley	Murray 2020
Bottom trawl, for fish and scallops, Mid-Atlantic	4	20	0.72	01 Jan 2014 - 2018	Leatherback	Murray 2020
Bottom trawl, for fish and scallops, Mid-Atlantic	3	16	0.73	01 Jan 2014 - 2018	Green	Murray 2020
Bottom trawl, for fish and scallops, Georges Bank	2	12	0.70	01 Jan 2014 - 2018	Loggerhead	Murray 2020
Bottom trawl, for fish and scallops, Georges Bank	1	6	1.0	01 Jan 2014 - 2018	Leatherback	Murray 2020
Sink Gillnet (Mid-Atlantic, Gulf of Maine, and Georges Bank combined)	28	142	0.89	01 Jan 2017-2021	Loggerhead	Murray 2023
Sink Gillnet (Mid-Atlantic, Gulf of Maine, and Georges Bank combined)	18	91	0.62	01 Jan 2017-2021	Kemp’s ridley	Murray 2023
Sink Gillnet (Mid-Atlantic, Gulf of Maine, and Georges Bank combined)	5	26	0.98	01 Jan 2017-2021	Leatherback	Murray 2023
Sink Gillnet (Mid-Atlantic, Gulf of Maine, and Georges Bank combined)	10	49	1.01	01 Jan 2017-2021	Green	Murray 2023
Sink Gillnet (Mid-Atlantic, Gulf of Maine, and Georges Bank combined)	6	32	0.59	01 Jan 2017-2021	Unidentified hard-shelled	Murray 2023

\* Sea day monitoring needs for green, Kemp’s ridley, and leatherback turtles in sink gillnet gear were not projected because of the low encounter rate of these species.

**Table 4. The number of sea days needed to achieve a 30% coefficient of variation of the discard estimate for each of the 14 fish and invertebrate species groups, the number of pilot sea days, the number of minimum pilot sea days, and the maximum number of sea days needed for each fleet (2024 Sea Days Needed) for fish and invertebrate species groups based on July 2022 through June 2023 data. Bold red font indicates basis for fleet sea days. See Appendix Table 1 for fleet stratification abbreviations; “P” indicates fleets with “pilot” designation. Species group abbreviations are given in Table 1. Taken from Table 6B in McAfee (2024).**

Row	Fleet					BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Days	Min Pilot Days	2024 Sea Days Needed	Pilot
	Gear Type	Access Area	Trip Category	Region	Mesh Group																		
1	Longline, Bottom	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	61	<b>61</b>	61	
2	Longline, Bottom	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	<b>13</b>	13	
3	Hand Line	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	<b>13</b>	13	
4	Hand Line	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	45	<b>14</b>	14	
5	Otter Trawl	OPEN	all	MA	sm	0	0	0	<b>3,525</b>	0	911	802	0	0	382	352	323	0	0	107	32	3,525	
6	Otter Trawl	OPEN	all	MA	lg	0	0	0	0	0	0	<b>728</b>	0	0	113	486	119	0	0	143	35	728	
7	Otter Trawl	OPEN	all	NE	sm	0	0	0	0	0	264	641	265	<b>1,026</b>	441	527	245	0	0	153	37	1,026	
8	Otter Trawl	OPEN	all	NE	lg	0	0	0	0	0	129	<b>595</b>	190	133	435	524	0	0	237	35	595		
9	Otter Trawl, LgMesh Belly Panel	OPEN	all	MA	lg	3	3	3	3	3	3	3	3	3	3	3	3	3	3	<b>3</b>	3	3	P
10	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	sm	46	46	46	46	46	46	46	46	46	46	46	46	46	46	<b>46</b>	46	46	P
11	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	lg	10	10	10	10	10	10	10	10	10	10	10	10	10	10	<b>10</b>	10	10	P
12	Otter Trawl, Scallop	OPEN	GEN	MA	lg	13	13	13	13	13	13	13	13	13	13	13	13	13	13	<b>13</b>	13	13	P
13	Otter Trawl, Twin	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	<b>33</b>	33	
14	Otter Trawl, Twin	OPEN	all	MA	lg	27	27	27	27	27	27	27	27	27	27	27	27	27	27	<b>27</b>	27	27	P
15	Otter Trawl, Twin	OPEN	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	<b>66</b>	66	
16	Otter Trawl, Twin	OPEN	all	NE	lg	3	3	3	3	3	3	3	3	3	3	3	3	3	3	<b>3</b>	3	3	P
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	16	16	16	16	16	16	16	16	16	16	16	16	16	16	<b>16</b>	16	16	P
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	43	43	43	43	43	43	43	43	43	43	43	43	43	43	<b>43</b>	43	43	P
19	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	91	<b>148</b>	0	0	0	91	91	148	
20	Otter Trawl, Shrimp	OPEN	all	MA	sm	37	37	37	37	37	37	37	37	37	37	37	37	37	37	<b>37</b>	37	37	P
21	Otter Trawl, Shrimp	OPEN	all	NE	lg	3	3	3	3	3	3	3	3	3	3	3	3	3	3	<b>3</b>	3	3	P
22	Otter Trawl, Other	OPEN	all	MA	sm	38	38	38	38	38	38	38	38	38	38	38	38	38	38	<b>38</b>	38	38	P
23	Otter Trawl, Other	OPEN	all	MA	lg	45	45	45	45	45	45	45	45	45	45	45	45	45	45	<b>45</b>	45	45	P
24	Otter Trawl, Other	OPEN	all	NE	sm	34	34	34	34	34	34	34	34	34	34	34	34	34	34	<b>34</b>	34	34	P
25	Otter Trawl, Other	OPEN	all	NE	lg	24	24	24	24	24	24	24	24	24	24	24	24	24	24	<b>24</b>	24	24	P
26	Floating Trap	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	<b>6</b>	6	6	P
27	Floating Trap	OPEN	all	NE	all	12	12	12	12	12	12	12	12	12	12	12	12	12	12	<b>12</b>	12	12	P
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	0	0	0	0	0	0	0	0	0	0	<b>169</b>	0	0	0	29	13	169	
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	0	0	0	0	0	0	0	0	0	0	<b>38</b>	0	0	0	34	13	38	
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	<b>10</b>	10	
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	9	9	9	9	9	9	9	9	9	9	9	9	9	9	<b>9</b>	9	9	P
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	0	0	0	0	0	0	0	0	0	0	<b>137</b>	0	0	0	40	21	137	
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	0	0	0	0	0	0	89	0	0	<b>205</b>	0	0	0	0	55	19	205	
34	Purse Seine	OPEN	all	MA	all	6	6	6	6	6	6	6	6	6	6	6	6	6	6	<b>6</b>	6	6	P
35	Purse Seine	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	<b>14</b>	14	
36	Dredge, Scallop	AA	GEN	MA	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	<b>3</b>	3	3	P
37	Dredge, Scallop	AA	GEN	NE	all	0	0	0	0	0	0	24	0	0	<b>27</b>	0	0	0	0	91	20	27	
38	Dredge, Scallop	AA	LIM	MA	all	117	117	117	117	117	117	117	117	117	117	117	117	117	117	<b>117</b>	117	117	P
39	Dredge, Scallop	AA	LIM	NE	all	0	0	0	0	<b>263</b>	0	99	0	205	186	0	0	0	0	136	91	263	
40	Dredge, Scallop	OPEN	GEN	MA	all	0	0	0	0	0	0	0	0	0	23	0	0	0	0	47	<b>27</b>	27	
41	Dredge, Scallop	OPEN	GEN	NE	all	0	0	0	0	0	0	<b>59</b>	0	0	0	0	0	0	0	69	18	59	
42	Dredge, Scallop	OPEN	LIM	MA	all	108	108	108	108	108	108	108	108	108	108	108	108	108	108	<b>108</b>	108	108	P
43	Dredge, Scallop	OPEN	LIM	NE	all	0	0	0	0	<b>828</b>	0	193	189	285	205	0	0	0	0	186	114	828	
44	Trawl, Midwater	all	all	NE	sm	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66	<b>66</b>	66	
45	Pots and Traps, Fish	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	<b>13</b>	13	

Row	Fleet					BLUE	HERR	SAL	RCRAB	SCAL	SBM	MONK	GFL	GFS	SKATE	DOG	FSB	SCOQ	TILE	Pilot Days	Min Pilot Days	2024 Sea Days Needed	Pilot
	Gear Type	Access Area	Trip Category	Region	Mesh Group																		
46	Pots and Traps, Fish	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23	10	10	
47	Pots and Traps, Conch	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	12	12	
48	Pots and Traps, Conch	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	12	12	
49	Pots and Traps, Hagfish	OPEN	all	NE	all	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	P
50	Pots and Traps, Lobster	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	17	17	
51	Pots and Traps, Lobster	OPEN	all	NE	all	0	0	0	0	0	0	0	34	100	0	0	0	0	0	453	17	100	
52	Pots and Traps, Crab	OPEN	all	MA	all	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	P
53	Pots and Traps, Crab	OPEN	all	NE	all	0	0	0	46	0	0	0	0	0	0	0	0	0	0	91	91	91	
54	Scottish Seine	OPEN	all	MA	sm	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	P
55	Dredge, Other	OPEN	all	MA	all	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	P
56	Dredge, Other	OPEN	all	NE	all	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	P
57	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	25	25	
58	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	0	0	0	0	0	0	0	0	0	0	0	0	0	0	42	21	21	
<b>Totals</b>						<b>747</b>	<b>747</b>	<b>747</b>	<b>4,318</b>	<b>1,838</b>	<b>1,922</b>	<b>3,511</b>	<b>1,830</b>	<b>2,553</b>	<b>2,553</b>	<b>3,039</b>	<b>1,958</b>	<b>747</b>	<b>747</b>	<b>3,297</b>	<b>1,821</b>	<b>9,113</b>	

**Table 5. The number of sea days needed to monitor fish/invertebrates (FISH), turtles (TURS), and combined species groups (COMBINED) by fleet (Steps 1 through 5); the number of funded sea days for April 2024 through March 2025 (Steps 6 and 7); and the differences between needed and funded days (Step 8). See Appendix Table 1 for fleet stratification abbreviations. MMPA= Marine Mammal Protection Act; ESA = Endangered Species Act.**

Row	Fleet					Step 1	Step 2	Step 3	Step 4a	Step 4b	Step 4c	Step 4d	Step 4e	Step 5			
	Gear Type	Access Area	Trip Cat.	Region	Mesh	2024 Sea Days Needed for FISH	2024 Sea Days Needed for FISH ADJUSTED	2024 Sea Days Needed for TURS	Vessel Trip Report Sea Days	% Vessel Trip Report Sea Days	% Sea Days Needed for FISH	Additional Sea Days needed for TURS	TURS Sea Days by FISH fleet	2024 Sea Days Needed COMBINED			
1	Longline, Bottom	OPEN	all	MA	all	61	61		1,156					61			
2	Longline, Bottom	OPEN	all	NE	all	13	13		357					13			
3	Hand Line	OPEN	all	MA	all	13	13		2,410					13			
4	Hand Line	OPEN	all	NE	all	14	14		2,049					14			
5	Otter Trawl	OPEN	all	MA	sm	3,525	3,525	1,921	5,362	0.426	0.823	0	1,581	3,525			
6	Otter Trawl	OPEN	all	MA	lg	728	728		7,164	0.569	0.170	0	327	728			
7	Otter Trawl	OPEN	all	NE	sm	1,026	1,026		7,661					1,026			
8	Otter Trawl	OPEN	all	NE	lg	595	595		11,855					595			
9	Otter Trawl, LgMesh Belly Panel	OPEN	all	MA	lg	3	0		13					0			
10	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	sm	46	46		304					46			
11	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	lg	10	10	40	10								
12	Otter Trawl, Scallop	OPEN	GEN	MA	lg	13	13		52	0.004	0.003	0	6	13			
13	Otter Trawl, Twin	OPEN	all	MA	sm	33	33		203					33			
14	Otter Trawl, Twin	OPEN	all	MA	lg	27	27		81					27			
15	Otter Trawl, Twin	OPEN	all	NE	sm	66	66		224					66			
16	Otter Trawl, Twin	OPEN	all	NE	lg	3	0		5					0			
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	16	16		16	0.001	0.004	0	7	16			
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	43	0		125					0			
19	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	148	148		562					148			
20	Otter Trawl, Shrimp	OPEN	all	MA	sm	37	0		616					0			
21	Otter Trawl, Shrimp	OPEN	all	NE	lg	3	0		23					0			
22	Otter Trawl, Other	OPEN	all	MA	sm	38	0		499	0.000	0.000	0	0	0			
23	Otter Trawl, Other	OPEN	all	MA	lg	45	0		753	0.000	0.000	0	0	0			
24	Otter Trawl, Other	OPEN	all	NE	sm	34	0		474					0			
25	Otter Trawl, Other	OPEN	all	NE	lg	24	0		304					0			
26	Floating Trap	OPEN	all	MA	all	6	0		29					0			
27	Floating Trap	OPEN	all	NE	all	12	12		313					12			
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	169	169	1,452	0.179					0.298	0	0	169
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	38	38	1,611	0.199					0.067	0	0	38
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	10	10	479	0.059					0.018	0	0	10
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	9	9	21	0.003					0.016	0	0	9
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	137	137	1,782	0.220					0.241	0	0	137
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	205	205		2,767	0.341	0.361	0	0	205			

Row	Fleet					Step 1	Step 2	Step 3	Step 4a	Step 4b	Step 4c	Step 4d	Step 4e	Step 5
	Gear Type	Access Area	Trip Cat.	Region	Mesh	2024 Sea Days Needed for FISH	2024 Sea Days Needed for FISH ADJUSTED	2024 Sea Days Needed for TURS	Vessel Trip Report Sea Days	% Vessel Trip Report Sea Days	% Sea Days Needed for FISH	Additional Sea Days needed for TURS	TURS Sea Days by FISH fleet	2024 Sea Days Needed COMBINED
34	Purse Seine	OPEN	all	MA	all	6	6		164					6
35	Purse Seine	OPEN	all	NE	all	14	14		609					14
36	Dredge, Scallop	AA	GEN	MA	all	3	3		11					3
37	Dredge, Scallop	AA	GEN	NE	all	27	27		4,556					27
38	Dredge, Scallop	AA	LIM	MA	all	117	117		813					117
39	Dredge, Scallop	AA	LIM	NE	all	263	263		6,009					263
40	Dredge, Scallop	OPEN	GEN	MA	all	27	27		2,329					27
41	Dredge, Scallop	OPEN	GEN	NE	all	59	59		3,426					59
42	Dredge, Scallop	OPEN	LIM	MA	all	108	108		790					108
43	Dredge, Scallop	OPEN	LIM	NE	all	828	828		8,648					828
44	Trawl, Midwater	all	all	NE	sm	66	66		277					66
45	Pots and Traps, Fish	OPEN	all	MA	all	13	13		1,048					13
46	Pots and Traps, Fish	OPEN	all	NE	all	10	10		1,145					10
47	Pots and Traps, Conch	OPEN	all	MA	all	12	12		645					12
48	Pots and Traps, Conch	OPEN	all	NE	all	12	12		978					12
49	Pots and Traps, Hagfish	OPEN	all	NE	all	99	99		150					99
50	Pots and Traps, Lobster	OPEN	all	MA	all	17	17		1,404					17
51	Pots and Traps, Lobster	OPEN	all	NE	all	100	100		32,149					100
52	Pots and Traps, Crab	OPEN	all	MA	all	3	3		32					3
53	Pots and Traps, Crab	OPEN	all	NE	all	91	91		702					91
54	Scottish Seine	OPEN	all	MA	sm	5	5		8					5
55	Dredge, Other	OPEN	all	MA	all	24	0		290					0
56	Dredge, Other	OPEN	all	NE	all	13	13		106					13
57	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	25	25		3,200					25
58	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	21	21		2,123					21
<b>Total</b>						<b>9,113</b>	<b>8,853</b>	<b>1,921</b>	<b>122,374</b>					<b>8,853</b>

<b>Step 6</b>	Agency Fleets (Sea Days Needed)	7,668	7,408		7,408
	Industry Fleets (Sea Days Needed)	1,445	1,445		1,445
<b>Step 7</b>	Agency Fleets (Sea Days Funded)		Prioritized		2,181
	Agency Fleets (Sea Days Funded)		Non-prioritized (MMPA and ESA)		421
	Industry Fleets (Sea Days Funded)				1,548
<b>Step 8</b>	Agency Fleet Difference		SHORTFALL		-5,227
	Industry Fleet Difference		SURPLUS		103

Turtle Gear Types		MA Trawl	4,365	4,282	1,921	12,594	- 2,361	0	1,921	4,282
		Gillnet	568	568	0	8,112	-568	0	0	568

<b>KEY:</b> Agency-funded fleets	Industry-funded fleets
Fleets identified as "erroneous"	
Steps used in sea day allocation	

Difference between taxa



**Table 6. The 2024 sea days needed (COMBINED; Step 5) and the information used in the penultimate approach to prioritize sea days to fleets for agency-funded days that are applicable to the prioritization process (Steps 9.1 through 9.5). See Appendix Table 1 for fleet stratification abbreviations.**

Row	Fleet					Step 5 2024 Sea Days Needed COMBINED	Step 9.1											Step 9.2		Step 9.3		Step 9.4	Step 9.5									
	Gear Type	Access Area	Trip Cat.	Region	Mesh		Penultimate sea days needed for the 15 species groups, in descending order with minimum pilot coverage as minimum for fleet											Sea day differences between adjacent species groups within a row (red font indicated values used in Step 9.3)		Sea day differences, in descending order with fleet constraint	Cumulative reduction of sea days	2024 Sea Days PRIORITIZED (Penultimate)	2024 Sea Days PRIORITIZED (Penultimate)									
1	Longline, Bottom	OPEN	all	MA	all	61	61											0		1,944	1,944	61	61									
2	Longline, Bottom	OPEN	all	NE	all	13	13											0		670	2,614	13	13									
3	Hand Line	OPEN	all	MA	all	13	13											0		385	2,999	13	13									
4	Hand Line	OPEN	all	NE	all	14	14											0		242	3,241	14	14									
5	Otter Trawl	OPEN	all	MA	sm	3,525	1,581	911	802	382	352	323	32					1,944	670	109	420	30	29	291	3,400	382	382					
6	Otter Trawl	OPEN	all	MA	lg	728	486	327	119	113	35							242	159	208	6	78				208	3,608	119	119			
7	Otter Trawl	OPEN	all	NE	sm	1,026	641	527	441	265	264	245	37					385	114	86	176	1	19	208			156	3,764	265	265		
8	Otter Trawl	OPEN	all	NE	lg	595	524	435	190	133	129	35						71	89	245	57	4	94				116	3,880	269	305		
9	Otter Trawl, LgMesh Belly Panel	OPEN	all	MA	lg	0	0											0									116	3,996	0	0		
10	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	sm	46	46											46	0								114	4,110	46	46		
11	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	lg	10	10											10	0								109	4,219	10	10		
12	Otter Trawl, Scallop	OPEN	GEN	MA	lg	13																					420	4,639				
13	Otter Trawl, Twin	OPEN	all	MA	sm	33	33											33	0								86	4,725	33	33		
14	Otter Trawl, Twin	OPEN	all	MA	lg	27	27											27	0								176	4,901	27	27		
15	Otter Trawl, Twin	OPEN	all	NE	sm	66	66											66	0								71	4,972	66	66		
16	Otter Trawl, Twin	OPEN	all	NE	lg	0	0											0	0								89	5,061	0	0		
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	16	16											16	0								89	5,061	0	0		
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0											0	0								166 of 245	5,227	16	16		
19	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	148	91											91	57									0	0	148	148	
20	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0											0	0										0	0	0	0
21	Otter Trawl, Shrimp	OPEN	all	NE	lg	0	0											0	0										0	0	0	0
22	Otter Trawl, Other	OPEN	all	MA	sm	0	0											0	0										0	0	0	0
23	Otter Trawl, Other	OPEN	all	MA	lg	0	0											0	0										0	0	0	0
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0											0	0										0	0	0	0
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0											0	0										0	0	0	0
26	Floating Trap	OPEN	all	MA	all	0	0											0	0										0	0	0	0
27	Floating Trap	OPEN	all	NE	all	12	12											12	0										12	0	12	0
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	169	13											13	156										13	13	13	13
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	38	13											13	25										38	38	38	38
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	10	10											10	0										10	10	10	10
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	9	9											9	0										9	9	9	9
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	137	21											21	116										21	21	21	21
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	205	89	19										89	116	70									89	89	89	89
34	Purse Seine	OPEN	all	MA	all	6	6											6	0										6	0	6	0
35	Purse Seine	OPEN	all	NE	all	14	14											14	0										14	14	14	14
36	Dredge, Scallop	AA	GEN	MA	all	3																										
37	Dredge, Scallop	AA	GEN	NE	all	27																										
38	Dredge, Scallop	AA	LIM	MA	all	117																										
39	Dredge, Scallop	AA	LIM	NE	all	263																										
40	Dredge, Scallop	OPEN	GEN	MA	all	27																										
41	Dredge, Scallop	OPEN	GEN	NE	all	59																										
42	Dredge, Scallop	OPEN	LIM	MA	all	108																										
43	Dredge, Scallop	OPEN	LIM	NE	all	828																										
44	Trawl, Midwater	all	all	NE	sm	66	66											66	0										66	66	66	66
45	Pots and Traps, Fish	OPEN	all	MA	all	13	13											13	0										13	13	13	13
46	Pots and Traps, Fish	OPEN	all	NE	all	10	10											10	0										10	10	10	10
47	Pots and Traps, Conch	OPEN	all	MA	all	12	12											12	0										12	12	12	12
48	Pots and Traps, Conch	OPEN	all	NE	all	12	12											12	0										12	12	12	12
49	Pots and Traps, Hagfish	OPEN	all	NE	all	99	99											99	0										99	99	99	99
50	Pots and Traps, Lobster	OPEN	all	MA	all	17	17											17	0										17	17	17	17
51	Pots and Traps, Lobster	OPEN	all	NE	all	100	34	17										34	66	17									100	100	100	100
52	Pots and Traps, Crab	OPEN	all	MA	all	3	3											3	0										3	3	3	3



**Table 7. The 2024 sea days needed to monitor the combined species groups (COMBINED), prioritized days (Step 9.5), non-prioritized days (Step 10), industry-funded scallop days (Step 11), and observer sea days allocated for April 2024 through March 2025 (Step 12) by fleet. Note: \* indicates all coverage is dependent on industry activity (assigned via the Pre-Trip Notification System); \*\* indicates some coverage is dependent on industry activity (assigned via the Pre-Trip Notification System); \*\*\* indicates coverage for protected species bycatch. See Appendix Table 1 for fleet stratification abbreviations. NEFOP = Northeast Fisheries Observer Program; MMPA= Marine Mammal Protection Act; ESA = Endangered Species Act.**

Row	Fleet					Step 5	Step 9.5	Step 10	Step 11	Step 12	Comments
	Gear Type	Access Area	Trip Cat.	Region	Mesh	2024 Sea Days Needed COMBINED	2024 Sea Days PRIORITIZED (Penultimate)	2024 Sea Days Non-Prioritized	2024 Sea Days Industry-Funded Scallop	Sea Days Allocated for April 2024 - March 2025 (TOTAL)	
1	Longline, Bottom	OPEN	all	MA	all	61	61			61	Fish stock assessment support
2	Longline, Bottom	OPEN	all	NE	all	13	13			13	Fish stock assessment support **
3	Hand Line	OPEN	all	MA	all	13	13			13	Fish stock assessment support
4	Hand Line	OPEN	all	NE	all	14	14			14	Fish stock assessment support
5	Otter Trawl	OPEN	all	MA	sm	3,525	382			382	Fish stock assessment and turtle bycatch support
6	Otter Trawl	OPEN	all	MA	lg	728	119			119	Fish stock assessment and turtle bycatch support **
7	Otter Trawl	OPEN	all	NE	sm	1,026	265			265	Fish stock assessment support **
8	Otter Trawl	OPEN	all	NE	lg	595	305			305	Fish stock assessment support **
9	Otter Trawl, LgMesh Belly Panel	OPEN	all	MA	lg	0	0			0	Fleet removed (erroneous fleet)
10	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	sm	46	46			46	Fish stock assessment support
11	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	lg	10	10			10	Fish stock assessment support
12	Otter Trawl, Scallop	OPEN	GEN	MA	lg	13					Industry-funded scallop * (see Row 40)
13	Otter Trawl, Twin	OPEN	all	MA	sm	33	33			33	Fish stock assessment support
14	Otter Trawl, Twin	OPEN	all	MA	lg	27	27			27	Fish stock assessment support
15	Otter Trawl, Twin	OPEN	all	NE	sm	66	66			66	Fish stock assessment support
16	Otter Trawl, Twin	OPEN	all	NE	lg	0	0			0	Fleet removed (erroneous fleet)
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	16	16			16	Fish stock assessment support *
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0			0	Fleet removed (erroneous fleet)
19	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	148	148			148	Fish stock assessment support *
20	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0			0	Fleet removed (erroneous fleet)
21	Otter Trawl, Shrimp	OPEN	all	NE	lg	0	0			0	Fleet removed (erroneous fleet)
22	Otter Trawl, Other	OPEN	all	MA	sm	0	0			0	Fleet removed (erroneous fleet)
23	Otter Trawl, Other	OPEN	all	MA	lg	0	0			0	Fleet removed (erroneous fleet)
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0			0	Fleet removed (erroneous fleet)
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0			0	Fleet removed (erroneous fleet)
26	Floating Trap	OPEN	all	MA	all	0	0			0	Fleet removed (erroneous fleet)
27	Floating Trap	OPEN	all	NE	all	12	0			0	Fleet removed (NEFOP limitation)
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	169	13			13	Fish stock assessment and turtle bycatch support
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	38	38			38	Fish stock assessment and turtle bycatch support
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xlg	10	10			10	Fish stock assessment and turtle bycatch support
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	9	9			9	Fish stock assessment and turtle bycatch support
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	137	21			21	Fish stock assessment and turtle bycatch support**
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xlg	205	89			89	Fish stock assessment and turtle bycatch support**
34	Purse Seine	OPEN	all	MA	all	6	0			0	Fleet removed (NEFOP limitation)
35	Purse Seine	OPEN	all	NE	all	14	14			14	Fish stock assessment support



**Table 8. The 2024 allocated observer sea days for April 2024 through March 2025, the Vessel Trip Report (VTR) activity (in days and trips) from July 2022 through June 2023 (taken from McAfee [2024]) expressed as 2024 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 stratification abbreviations. MMPA= Marine Mammal Protection Act; ESA = Endangered Species Act.**

Row	Fleet					A Sea Days Allocated for April 2024 - March 2025 (TOTAL)	B Trips for April 2024 - March 2025 (TOTAL)	C 2024 SBRM Vessel Trip Report (DAYS)	D 2024 SBRM Vessel Trip Report (TRIPS)	E = A/C Expected % Coverage (DAYS)	F = B/D Expected % Coverage (TRIPS)
	Gear Type	Access Area	Trip Cat.	Region	Mesh						
1	Longline, Bottom	OPEN	all	MA	all	61	12	1,156	289	5.3%	4.2%
2	Longline, Bottom	OPEN	all	NE	all	13	12	357	337	3.6%	3.6%
3	Hand Line	OPEN	all	MA	all	13	12	2,410	2,244	0.5%	0.5%
4	Hand Line	OPEN	all	NE	all	14	12	2,049	1,879	0.7%	0.6%
5	Otter Trawl	OPEN	all	MA	sm	382	154	5,362	2,155	7.1%	7.1%
6	Otter Trawl	OPEN	all	MA	lg	119	44	7,164	2,669	1.7%	1.6%
7	Otter Trawl	OPEN	all	NE	sm	265	88	7,661	2,551	3.5%	3.4%
8	Otter Trawl	OPEN	all	NE	lg	305	109	11,855	4,226	2.6%	2.6%
9	Otter Trawl, LgMesh Belly Panel	OPEN	all	MA	lg	0	0	13	13	0.0%	0.0%
10	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	sm	46	12	304	98	15.1%	12.2%
11	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	lg	10	3	40	10	25.0%	30.0%
12	Otter Trawl, Scallop	OPEN	GEN	MA	lg			52	37		
13	Otter Trawl, Twin	OPEN	all	MA	sm	33	12	203	105	16.3%	11.4%
14	Otter Trawl, Twin	OPEN	all	MA	lg	27	12	81	39	33.3%	30.8%
15	Otter Trawl, Twin	OPEN	all	NE	sm	66	9	224	30	29.5%	30.0%
16	Otter Trawl, Twin	OPEN	all	NE	lg	0	0	5	5	0.0%	0.0%
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	16	3	16	3	100.0%	100.0%
18	Otter Trawl, Ruhle	OPEN	all	NE	sm	0	0	125	26	0.0%	0.0%
19	Otter Trawl, Haddock Separator	OPEN	all	NE	lg	148	20	562	75	26.3%	26.7%
20	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0	616	171	0.0%	0.0%
21	Otter Trawl, Shrimp	OPEN	all	NE	lg	0	0	23	21	0.0%	0.0%
22	Otter Trawl, Other	OPEN	all	MA	sm	0	0	499	185	0.0%	0.0%
23	Otter Trawl, Other	OPEN	all	MA	lg	0	0	753	213	0.0%	0.0%
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0	474	192	0.0%	0.0%
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0	304	184	0.0%	0.0%
26	Floating Trap	OPEN	all	MA	all	0	0	29	29	0.0%	0.0%
27	Floating Trap	OPEN	all	NE	all	0	0	313	313	0.0%	0.0%
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	13	157	1,452	1,348	0.9%	11.6%
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	38	38	1,611	1,587	2.4%	2.4%
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xl	10	9	479	434	2.1%	2.1%
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	9	6	21	16	42.9%	37.5%
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	21	14	1,782	1,214	1.2%	1.2%
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xl	89	62	2,767	1,922	3.2%	3.2%
34	Purse Seine	OPEN	all	MA	all	0	0	164	162	0.0%	0.0%
35	Purse Seine	OPEN	all	NE	all	14	9	609	563	2.3%	1.6%
36	Dredge, Scallop	AA	GEN	MA	all	131	16	11	9	15.9%	16.7%
37	Dredge, Scallop	AA	GEN	NE	all	382	71	4,556	3,014	3.6%	1.9%
38	Dredge, Scallop	AA	LIM	MA	all			813	89		
39	Dredge, Scallop	AA	LIM	NE	all			6,009	819		
40	Dredge, Scallop	OPEN	GEN	MA	all	99	62	2,329	1,066	1.7%	1.8%
41	Dredge, Scallop	OPEN	GEN	NE	all			3,426	2,391		
42	Dredge, Scallop	OPEN	LIM	MA	all	936	98	790	87	9.9%	9.9%
43	Dredge, Scallop	OPEN	LIM	NE	all			8,648	898		
44	Trawl, Midwater	all	all	NE	sm	66	12	277	56	23.8%	21.4%
45	Pots and Traps, Fish	OPEN	all	MA	all	13	12	1,048	1,005	1.2%	1.2%

Fleet					
Row	Gear Type	Access Area	Trip Cat.	Region	Mesh
46	Pots and Traps, Fish	OPEN	all	NE	all
47	Pots and Traps, Conch	OPEN	all	MA	all
48	Pots and Traps, Conch	OPEN	all	NE	all
49	Pots and Traps, Hagfish	OPEN	all	NE	all
50	Pots and Traps, Lobster	OPEN	all	MA	all
51	Pots and Traps, Lobster	OPEN	all	NE	all
52	Pots and Traps, Crab	OPEN	all	MA	all
53	Pots and Traps, Crab	OPEN	all	NE	all
54	Scottish Seine	OPEN	all	MA	sm
55	Dredge, Other	OPEN	all	MA	all
56	Dredge, Other	OPEN	all	NE	all
57	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all
58	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all
MMPA coverage					
MMPA analysis					
ESA coverage					

**TOTAL**

A	B
Sea Days Allocated for April 2024 - March 2025 (TOTAL)	Trips for April 2024 - March 2025 (TOTAL)
10	9
12	12
12	12
99	6
17	12
100	77
3	3
91	12
0	0
0	0
0	0
25	12
21	12
350	See Table 10 for MMPA sea days
37	
34	See Table 11 for ESA sea days
4,150	

C	D
2024 SBRM Vessel Trip Report (DAYS)	2024 SBRM Vessel Trip Report (TRIPS)
1,145	1,059
645	634
978	970
150	9
1,404	1,034
32,149	24,754
32	30
702	96
8	6
290	225
106	99
3,200	1,524
2,123	1,219

E = A/C	F = B/D
Expected % Coverage (DAYS)	Expected % Coverage (TRIPS)
0.9%	0.8%
1.9%	1.9%
1.2%	1.2%
66.0%	66.7%
1.2%	1.2%
0.3%	0.3%
9.4%	10.0%
13.0%	12.5%
0.0%	0.0%
0.0%	0.0%
0.0%	0.0%
0.8%	0.8%
1.0%	1.0%

**Table 9. The 2024 allocated observer sea days for April 2024 through March 2025; the fraction of industry activity from July 2022 through June 2023 expressed in 2024 fraction of effort that had Northeast Multispecies (NMS) fisheries management plan (FMP) and Atlantic herring (HER) FMP pre-trip notification requirements; 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 8. Purple shading identifies industry-funded scallop; green shading identifies Pre-Trip Notification System (PTNS) for NMS FMP; pink shading identifies PTNS for HER FMP. See Appendix Table 1 for fleet stratification abbreviations. NEFOP = Northeast Fisheries Observer Program; MMPA= Marine Mammal Protection Act; ESA = Endangered Species Act; SBRM = Standardized Bycatch Reporting Methodology.**

Row	Fleet					A	G	H	I				M=J/(C*G)		N=K/(C*H)	
	Gear Type	Access Area	Trip Cat.	Region	Mesh	Sea Days Allocated for April 2024 - March 2025 (TOTAL)	2024 Fraction of activity subject to NMS FMP PTNS Requirements	2024 Fraction of activity subject to HER FMP PTNS Requirements	Allocated observer sea days for April 2024 to March 2025 by TRIP SELECTION SYSTEM				Expected coverage (%) by SBRM NEFOP PTNS			
									2024 IFS Sea Days PTNS	2024 SBRM Sea Days NEFOP PTNS for NMS FMP	2024 SBRM Sea Days NEFOP PTNS for HER FMP	2024 SBRM Sea Days NEFOP Day Schedule	2024 SBRM Sea Day % NEFOP PTNS for NMS FMP	2024 SBRM Sea Day % NEFOP PTNS for HER FMP		
1	Longline, Bottom	OPEN	all	MA	all	61	0.000	0.000	0	0	0	61	0.0%	0.0%		
2	Longline, Bottom	OPEN	all	NE	all	13	0.151	0.000	0	2	0	11	3.7%	0.0%		
3	Hand Line	OPEN	all	MA	all	13	0.000	0.000	0	0	0	13	0.0%	0.0%		
4	Hand Line	OPEN	all	NE	all	14	0.007	0.000	0	0	0	14	0.0%	0.0%		
5	Otter Trawl	OPEN	all	MA	sm	382	0.000	0.000	0	0	0	382	0.0%	0.0%		
6	Otter Trawl	OPEN	all	MA	lg	119	0.027	0.000	0	3	0	116	1.6%	0.0%		
7	Otter Trawl	OPEN	all	NE	sm	265	0.000	0.037	0	0	10	255	0.0%	3.5%		
8	Otter Trawl	OPEN	all	NE	lg	305	0.719	0.000	0	219	0	86	2.6%	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	46	0.000	0.000	0	0	0	46	0.0%	0.0%		
11	Otter Trawl, LgMesh Belly Panel	OPEN	all	NE	lg	10	0.000	0.000	0	0	0	10	0.0%	0.0%		
12	Otter Trawl, Scallop	OPEN	GEN	MA	lg	0	0.000	0.000	0	0	0	0	0	0		
13	Otter Trawl, Twin	OPEN	all	MA	sm	33	0.000	0.000	0	0	0	33	0.0%	0.0%		
14	Otter Trawl, Twin	OPEN	all	MA	lg	27	0.000	0.000	0	0	0	27	0.0%	0.0%		
15	Otter Trawl, Twin	OPEN	all	NE	sm	66	0.000	0.000	0	0	0	66	0.0%	0.0%		
16	Otter Trawl, Twin	OPEN	all	NE	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
17	Otter Trawl, Ruhle	OPEN	all	MA	lg	16	0.667	0.000	0	16	0	0	150.0%	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, Haddock Separator	OPEN	all	NE	lg	148	0.973	0.000	0	148	0	0	27.1%	0.0%		
20	Otter Trawl, Shrimp	OPEN	all	MA	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
21	Otter Trawl, Shrimp	OPEN	all	NE	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
22	Otter Trawl, Other	OPEN	all	MA	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
23	Otter Trawl, Other	OPEN	all	MA	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
24	Otter Trawl, Other	OPEN	all	NE	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
25	Otter Trawl, Other	OPEN	all	NE	lg	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
26	Floating Trap	OPEN	all	MA	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
27	Floating Trap	OPEN	all	NE	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
28	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	sm	13	0.000	0.000	0	0	0	13	0.0%	0.0%		
29	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	lg	38	0.000	0.000	0	0	0	38	0.0%	0.0%		
30	Gillnet, Sink, Anchor, Drift	OPEN	all	MA	xl	10	0.000	0.000	0	0	0	10	0.0%	0.0%		
31	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	sm	9	0.000	0.000	0	0	0	9	0.0%	0.0%		
32	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	lg	21	0.774	0.000	0	16	0	5	1.2%	0.0%		
33	Gillnet, Sink, Anchor, Drift	OPEN	all	NE	xl	89	0.680	0.000	0	60	0	29	3.2%	0.0%		
34	Purse Seine	OPEN	all	MA	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%		
35	Purse Seine	OPEN	all	NE	all	14	0.000	0.032	0	0	0	14	0.0%	0.0%		
36	Dredge, Scallop	AA	GEN	MA	all	131	0.000	0.000	131	0	0	0	0	0		
37	Dredge, Scallop	AA	GEN	NE	all	382	0.000	0.000	382	0	0	0	0	0		
38	Dredge, Scallop	AA	LIM	MA	all	0	0.000	0.000	0	0	0	0	0	0		

Fleet						A	G	H	I	J=A*G	K=A*H	L=A-(J+K)	M=J/(C*G)	N=K/(C*H)
Row	Gear Type	Access Area	Trip Cat.	Region	Mesh	Sea Days Allocated for April 2024 - March 2025 (TOTAL)	2024 Fraction of activity subject to NMS FMP PTNS Requirements	2024 Fraction of activity subject to HER FMP PTNS Requirements	Allocated observer sea days for April 2024 to March 2025 by TRIP SELECTION SYSTEM				Expected coverage (%) by SBRM NEFOP PTNS	
									2024 IFS Sea Days PTNS	2024 SBRM Sea Days NEFOP PTNS for NMS FMP	2024 SBRM Sea Days NEFOP PTNS for HER FMP	2024 SBRM Sea Days NEFOP Sea Day Schedule	2024 SBRM Sea Day % NEFOP PTNS for NMS FMP	2024 SBRM Sea Day % NEFOP PTNS for HER FMP
39	Dredge, Scallop	AA	LIM	NE	all		0.000	0.000		0	0	0	0	0
40	Dredge, Scallop	OPEN	GEN	MA	all	99	0.000	0.000	99	0	0	0	0	0
41	Dredge, Scallop	OPEN	GEN	NE	all		0.000	0.000		0	0	0	0	0
42	Dredge, Scallop	OPEN	LIM	MA	all	936	0.000	0.000	936	0	0	0	0	0
43	Dredge, Scallop	OPEN	LIM	NE	all		0.000	0.000		0	0	0	0	0
44	Trawl, Midwater	all	all	NE	sm	66	0.000	0.946	0	0	66	0	0.0%	25.2%
45	Pots and Traps, Fish	OPEN	all	MA	all	13	0.000	0.000	0	0	0	13	0.0%	0.0%
46	Pots and Traps, Fish	OPEN	all	NE	all	10	0.000	0.000	0	0	0	10	0.0%	0.0%
47	Pots and Traps, Conch	OPEN	all	MA	all	12	0.000	0.000	0	0	0	12	0.0%	0.0%
48	Pots and Traps, Conch	OPEN	all	NE	all	12	0.000	0.000	0	0	0	12	0.0%	0.0%
49	Pots and Traps, Hagfish	OPEN	all	NE	all	99	0.000	0.000	0	0	0	99	0.0%	0.0%
50	Pots and Traps, Lobster	OPEN	all	MA	all	17	0.000	0.000	0	0	0	17	0.0%	0.0%
51	Pots and Traps, Lobster	OPEN	all	NE	all	100	0.000	0.000	0	0	0	100	0.0%	0.0%
52	Pots and Traps, Crab	OPEN	all	MA	all	3	0.000	0.000	0	0	0	3	0.0%	0.0%
53	Pots and Traps, Crab	OPEN	all	NE	all	91	0.000	0.000	0	0	0	91	0.0%	0.0%
54	Scottish Seine	OPEN	all	MA	sm	0	0.000	0.000	0	0	0	0	0.0%	0.0%
55	Dredge, Other	OPEN	all	MA	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%
56	Dredge, Other	OPEN	all	NE	all	0	0.000	0.000	0	0	0	0	0.0%	0.0%
57	Dredge, Ocean Quahog/Surfclam	OPEN	all	MA	all	25	0.000	0.000	0	0	0	25	0.0%	0.0%
58	Dredge, Ocean Quahog/Surfclam	OPEN	all	NE	all	21	0.000	0.000	0	0	0	21	0.0%	0.0%
	MMPA coverage (see Table 10)					350								
	MMPA analysis					37								
	ESA coverage (see Table 11)					34								
	<b>TOTAL</b>					4,150			1,548	464	76	1,641		



**Table 10. The 2024 Marine Mammal Protection Act allocated observer sea days for gillnet fleets by selection system. Sea days apportioned to the Pre-Trip Notification System (PTNS) and the Sea Day Schedule will be assigned for April 2024 through March 2025. 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		42	1.70%
PTNS	Gillnet	XLG	Any	New England		69	2.20%
Sea Day Schedule	Gillnet	LG	Any	New England		1	
Sea Day Schedule	Gillnet	XLG	Any	New England		40	
Sea Day Schedule	Gillnet	LG	NJ, DE, or MD	Mid-Atlantic	Ocean 0-200nm	17	
Sea Day Schedule	Gillnet	XLG	NJ, DE, or MD	Mid-Atlantic	Ocean 0-200nm	10	
Sea Day Schedule	Gillnet	Any	VA	Accomack County	Bay	1	
Sea Day Schedule	Gillnet	Any	VA	Accomack County	Ocean	38	
Sea Day Schedule	Gillnet	Any	VA	City of Hampton	Bay	24	
Sea Day Schedule	Gillnet	Any	VA	City of Hampton	Ocean	3	
Sea Day Schedule	Gillnet	Any	VA	James City	Bay	2	
Sea Day Schedule	Gillnet	Any	VA	Mathews County	Bay	22	
Sea Day Schedule	Gillnet	Any	VA	Northampton County	Bay	13	
Sea Day Schedule	Gillnet	Any	VA	Northampton County	Ocean	1	
Sea Day Schedule	Gillnet	Any	VA	Poquoson County	Bay	2	
Sea Day Schedule	Gillnet	Any	VA	Poquoson County	Ocean	3	
Sea Day Schedule	Gillnet	Any	VA	City of Virginia Beach	Bay	7	
Sea Day Schedule	Gillnet	Any	VA	City of Virginia Beach	Ocean	6	
Sea Day Schedule	Gillnet	LG	NC	Dare County	Ocean 0-3nm	3	
Sea Day Schedule	Gillnet	SM	NC	Dare County	Ocean 3-200nm	7	
Sea Day Schedule	Gillnet	SM	NC	Dare County	Ocean 0-3nm	32	
Sea Day Schedule	Gillnet	SM	NC	Hyde County	Ocean 0-3nm	7	
<b>Total</b>						<b>350</b>	

**Table 11. The 2024 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 2024 through October 2024. See Appendix Table 2 for mesh size abbreviations.**

<b>Selection Source</b>	<b>Gear</b>	<b>Mesh Size</b>	<b>State</b>	<b>Geographical Area</b>	<b>Trip Characteristics</b>	<b>Sea Days</b>
Sea Day Schedule	Gillnet	LG / XLG	New Jersey	Mid-Atlantic	Ocean (0-3nm)	12
Sea Day Schedule	Gillnet	LG / XLG	Delaware	Mid-Atlantic	Ocean (0-3nm)	10
Sea Day Schedule	Gillnet	LG / XLG	Maryland	Mid-Atlantic	Ocean (0-3nm)	12
<b>Total</b>						<b>34</b>

Funding Category	NMFS					INDUSTRY
Sampling Design	SBRM			MMPA / ESA		IFS
Observer Program/ Protocols	NEFOP			NEFOP Limited		IFS
Selection System	Sea Day Schedule 1,641	PTNS		Sea Day Schedule 239 MMPA sea days	Sea Day Schedule 34 ESA sea days	PTNS 111 MMPA sea days
		NMS FMP 464	HER FMP 76			

Figure 1. Schematic of funding categories, sampling designs, observer programs, and trip selection systems used by the Northeast Fisheries Science Center’s Fishery Monitoring and Research Division for the 2024 observer sea days allocated for April 2024 through March 2025. *Note: not all allocated SBRM NEFOP PTNS sea days will contribute toward the industry-funded monitoring total combined target requirements. Funding equivalent to 37 MMPA sea days will be in support of observer data analysis.* NMFS = National Marine Fisheries Service; HER = Atlantic herring; NMS = Northeast Multispecies; FMP = fishery management plan; NEFOP = Northeast Fisheries Observer Program; MMPA= Marine Mammal Protection Act; ESA = Endangered Species Act; IFS = Industry-Funded Scallop; PTNS = Pre-Trip Notification System; SBRM = Standardized Bycatch Reporting Methodology.

## APPENDIX

Step through calculations for 3 selected fleets in Tables 8 and 9:

1. New England (NE) large mesh otter trawl fleet (Row 8) for April 2024 through March 2025

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

305 days	Total number of Standardized Bycatch Reporting Methodology (SBRM) Northeast Fisheries Observer Program (NEFOP) observer sea days for this fleet (Table 8, Column A, Row 8) is a variance-based estimate of sample size.
11,855 days	Number of Vessel Trip Report (VTR) days in this fleet (Table 8, Column C, Row 8) is taken from McAfee (2024).
0.719	Fraction of industry activity with Northeast Multispecies (NMS) fishery management plan (FMP) pre-trip notification requirements in this fleet (Table 9, 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 8, Column D, Row 8).
0.000	Fraction of industry activity with Atlantic herring (HER) pre-trip notification requirements in this fleet (Table 9, Column H, Row 8) is derived by dividing the number of trips subject to the HER FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 8, Column D, Row 8).
0 days	Number of Industry-Funded Scallop (IFS) observer sea days for the Pre-Trip Notification System (PTNS) is taken from Table 8, Column A, Row 8 (IFS sea day for PTNS, Table 9, Column I, Row 8). This fleet is not an IFS fleet; trips in this fleet did not use a scallop trawl or scallop dredge.
219 days	$(305 * 0.719)$ 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 9, Column J, Row 8) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 9, Column A, Row 8) and the fraction of industry activity with NMS FMP pre-trip notification requirements in this fleet (Table 9, Column G, Row 8).

0 days	(305 * 0.000) Number of SBRM NEFOP observer sea days in this fleet apportioned to the PTNS for trips with HER FMP pre-trip notification requirements, rounded to whole days (SBRM NEFOP PTNS for HER FMP; Table 9, Column K, Row 8) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 9, Column A, Row 8) and fraction of industry activity with HER FMP pre-trip notification requirements in this fleet (Table 9, Column H, Row 8).
86 days	(305 – (219 + 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 9, Column L, Row 8) is derived by the sum of SBRM NEFOP PTNS for NMS FMP (Table 9, Column J, Row 8) and SBRM NEFOP PTNS for HER FMP (Table 9, Column K, Row 8) subtracted from the of total SBRM NEFOP observer sea days for this fleet (Table 9, 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 2022 through June 2023, 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.

2.6%	(219 / (11,855 * 0.719)*100) The expected percentage of SBRM NEFOP PTNS observer sea days for trips with NMS FMP pre-trip notification requirement in this fleet (Table 9, Column M, Row 8) is derived by dividing the SBRM NEFOP PTNS for NMS FMP observer sea days (Table 9, Column J, Row 8) by the product of the VTR effort (Table 8, Column C, Row 8) and the fraction of industry activity with NMS FMP pre-trip notification requirements (Table 9, Column G, Row 8). To represent as a percentage, multiply by 100.
0%	(0 / (11,855 * 0.000)*100) The expected percentage of SBRM NEFOP PTNS observer sea days for trips with HER FMP pre-trip notification requirement in this fleet (Table 9, Column N, Row 8) is derived by dividing the SBRM NEFOP PTNS for HER FMP observer sea days (Table 9, Column K, Row 8) by the product of the VTR effort (Table 8, Column C, Row 8) and

the fraction of industry activity with HER FMP pre-trip notification requirements (Table 9, Column H, Row 8). To represent as a percentage, multiply by 100.

2. NE small mesh Otter trawl fleet (Row 7) for April 2024 through March 2025

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

265 days	Total number of SBRM NEFOP observer sea days for this fleet (Table 8, Column A, Row 7) is a variance-based estimate of sample size.
7,661 days	Number of VTR days in this fleet (Table 8, Column C, Row 7) is taken from McAfee (2024).
0.000	Fraction of industry activity with NMS FMP pre-trip notification requirements in this fleet (Table 9, 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 8, Column D, Row 7).
0.037	Fraction of industry activity with HER pre-trip notification requirements in this fleet (Table 9, Column H, Row 7) is derived by dividing the number of trips subject to the HER FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 8, Column D, Row 7).
0 days	Number of IFS observer sea days for the PTNS is taken from Table 8, Column A, Row 7 (IFS sea day for PTNS, Table 9, Column I, Row 7). This fleet is not an IFS fleet; trips in this fleet did not use a scallop trawl or scallop dredge.
0 days	$(265 * 0.000)$ 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 9, Column J, Row 7) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 9, Column A, Row 7) and the fraction of industry activity with NMS FMP pre-trip notification requirements in this fleet (Table 9, Column G, Row 7).
10 days	$(265 * 0.037)$ Number of SBRM NEFOP observer sea days in this fleet apportioned to the PTNS for trips with HER FMP pre-trip notification requirements, rounded to whole days (SBRM NEFOP PTNS for HER FMP; Table 9, Column K, Row 7) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 9, Column A, Row 7) and the fraction

of industry activity with HER FMP pre-trip notification requirements in this fleet (Table 9, Column H, Row 7).

255 days  $(265 - (0 + 10))$  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 9, Column L, Row 7) is derived by the sum of SBRM NEFOP PTNS for NMS FMP (Table 9, Column J, Row 7) and SBRM NEFOP PTNS for HER FMP (Table 9, Column K, Row 7) subtracted from the of total SBRM NEFOP observer sea days for this fleet (Table 9, 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 2022 through June 2023, 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 HER FMP total combined monitoring requirements. This estimate does not account for the portion of declared trips with EFP's and/or FMP monitoring exemptions.

0%  $(0 / (7,661 * 0.000) * 100)$  The expected percentage of SBRM NEFOP PTNS observer sea days for trips with NMS FMP pre-trip notification requirement in this fleet (Table 9, Column M, Row 7) is derived by dividing the SBRM NEFOP PTNS for NMS FMP observer sea days (Table 9, Column J, Row 7) by the product of the VTR effort (Table 8, Column C, Row 7) and the fraction of industry activity with NMS FMP pre-trip notification requirements (Table 9, Column G, Row 7). To represent as a percentage, multiply by 100.

3.5%  $(10 / (7,661 * 0.037) * 100)$  The expected percentage of SBRM NEFOP PTNS observer sea days for trips with HER FMP pre-trip notification requirement in this fleet (Table 9, Column N, Row 7) is derived by dividing the SBRM NEFOP PTNS for HER FMP observer sea days (Table 9, Column K, Row 7) by the product of the VTR effort (Table 8, Column C, Row 7) and the fraction of industry activity with HER FMP pre-trip notification requirements (Table 9, Column H, Row 7). To represent as a percentage, multiply by 100.

3. NE small mesh midwater trawl fleet (Row 44) for April 2023 through March 2024

*How many observer sea days in this fleet (Row 44) are apportioned to each selection system?*

66 days	Total number of SBRM NEFOP observer sea days for this fleet (Table 8, Column A, Row 44) is based on minimum pilot coverage.
277 days	Number of VTR days in this fleet (Table 8, Column C, Row 44) is taken from McAfee (2024).
0.000	Fraction of industry activity with NMS FMP pre-trip notification requirements in this fleet (Table 9, Column G, Row 44) 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 8, Column D, Row 44).
0.946	Fraction of industry activity with HER FMP pre-trip notification requirements in this fleet (Table 9, Column H, Row 44) is derived by dividing the number of trips subject to the HER FMP pre-trip notification requirements in this fleet (not shown in this table) by the number of trips in this fleet (Table 8, Column D, Row 44).
0 days	IFS observer sea days for the PTNS is taken from Table 8, Column A, Row 44 (IFS sea day for PTNS, Table 9, Column I, Row 44). This fleet is not an IFS fleet; trips in this fleet did not use a scallop trawl or scallop dredge
0 days	$(66 * 0.000)$ 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 9, Column J, Row 44) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 9, Column A, Row 44) and the fraction of industry activity with NMS FMP pre-trip notification requirements in this fleet (Table 9, Column G, Row 44).
66 days	$(66 * 0.946)$ Number of SBRM NEFOP observer sea days in this fleet apportioned to the PTNS for trips with HER FMP pre-trip notification requirement, rounded to whole days (SBRM NEFOP PTNS for HER FMP; Table 9, Column K, Row 44) is derived by the product of the total SBRM NEFOP observer sea days in this fleet (Table 9, Column A, Row 44) and the fraction of industry activity with HER FMP pre-trip notification requirements in this fleet (Table 9, Column H, Row 44).



0 days (66 – (0 + 66)) 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 9, Column L, Row 44) is derived by the sum of SBRM NEFOP PTNS for NMS FMP (Table 9, Column J, Row 44) and SBRM NEFOP PTNS for HER FMP (Table 9, Column K, Row 44) subtracted from the of total SBRM NEFOP observer sea days for this fleet (Table 9, Column A, Row 44).

*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 2022 through June 2023, 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 HER 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 / (277 \* 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 9, Column M, Row 44) is derived by dividing the SBRM NEFOP PTNS for NMS FMP observer sea days (Table 9, Column J, Row 44) by the product of the VTR effort (Table 8, Column C, Row 44) and the fraction of industry activity with NMS FMP pre-trip notification requirements (Table 9, Column G, Row 44). To represent as a percentage, multiply by 100.

25.2% (66 / (277 \* 0.947)\*100) The expected percentage of SBRM NEFOP PTNS observer sea days for trips with HER FMP pre-trip notification requirement in this fleet (Table 9, Column N, Row 44) is derived by dividing the SBRM NEFOP PTNS for HER FMP observer sea days (Table 9, Column K, Row 44) by the product of the VTR effort (Table 8, Column C, Row 44) and the fraction of industry activity with HER FMP pre-trip notification requirements (Table 9, Column H, Row 44). To represent as a percentage, multiply by 100.

**Appendix Table 1. Stratification abbreviations used for 2024 fleets.**

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
OPEN	Nonaccess area
GEN	General category
LIM	Limited access category

**Appendix Table 2. Stratification abbreviations used for Marine Mammal Protection Act and Endangered Species Act fleets in Table 10 and 11.**

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 Marine Mammal Protection Act coverage use the Standardized Bycatch Reporting Methodology definition of 5.50 to 7.99 inches.

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