# Industry-Funded Monitoring Omnibus Amendment

## *Public Hearing Document*

**October 2016**

**Prepared by NOAA's National Marine Fisheries Service**

The National Marine Fisheries Service (NMFS), in conjunction with the New England Fishery Management Council (NEFMC) and Mid-Atlantic Fishery Management Council (MAFMC), is conducting public hearings to solicit comments on the Draft Industry-Funded Monitoring (IFM) Omnibus Amendment. These hearings are being conducted to comply with the Magnuson-Stevens Fishery Conservation and Management Act. Following these hearings, additional opportunities for review and comment on the IFM Amendment and the Draft Environmental Assessment (EA) will occur during NEFMC and MAFMC meetings, as well as during the public comment period on the IFM Amendment proposed rule.

**Schedule of Public Hearings**

| Date | Time | Location | City/State |
|---|---|---|---|
| Tuesday, October 4, 2016 | 6:00 – 8:00 p.m. | Greater Atlantic Regional Fisheries Office<br>55 Great Republic Drive | Gloucester, MA |
| Monday, October 17, 2016 | 5:00 – 7:00 p.m. | Internet webinar, connection information is available at (http://mafmc.adobeconnect.com/ifm-hearing/) | |
| Thursday, October 20, 2016 | 6:00 – 8:00 p.m. | Double Tree by Hilton Hotels<br>363 Maine Mall Road | Portland, ME |
| Thursday, October 27, 2016 | 5:00 – 7:00 p.m. | Congress Hall<br>200 Congress Place | Cape May, NJ |
| Tuesday, November 1, 2016 | 6:00 – 8:00 p.m. | Corless Auditorium - Watkins Building<br>University of Rhode Island<br>Graduate School of Oceanography<br>218 Ferry Road | Narragansett, RI |

At each hearing, NMFS staff will brief the public on the IFM Amendment before opening the hearing for public comments. Please contact NMFS staff at the Greater Atlantic Regional Fisheries Office (978-281-9315) if you need directions to any of the hearing locations. A copy of the draft IFM Amendment and draft EA can document can be obtained from NMFS's website: https://www.greateratlantic.fisheries.noaa.gov/mediacenter/2016/september/20_ifm_public_hearings_and_comments.html or requested from the NMFS office.

Members of the public may submit oral and/or written comments at any of public hearings listed above. In addition, written comments may be submitted electronically or mailed to NMFS.

Written comments must be submitted by Monday, November 7, 2016.

To submit written comments electronically via the Federal e-Rulemaking Portal: Go to https://www.federalregister.gov/documents/2016/09/20/2016-22493/mid-atlantic-fishery-management-council-mafmc-new-england-fishery-management-council-nefmc-public, click on the "Comment Now!" icon, complete the required fields, and enter or attach your comments.

Submit written comments by mail to:

John K. Bullard
Regional Administrator
National Marine Fisheries Service
Greater Atlantic Regional Fisheries Office
55 Great Republic Drive
Gloucester, MA 01930-2298

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## 1.1 WHY IS INDUSTRY-FUNDED MONITORING BEING CONSIDERED?

The New England Fishery Management Council (NEFMC) and the Mid-Atlantic Fishery Management Council (MAFMC) are interested in increasing monitoring and/or other types of data collection in some fishery management plans (FMPs) to assess the amount and type of catch, to more precisely monitor annual catch limits, and/or provide other information for management. This increased monitoring would be above coverage required through the Standardized Bycatch Reporting Methodology (SBRM), the Endangered Species Act (ESA) or Marine Mammal Protection Act (MMPA). The amount of available Federal funding to support additional monitoring and legal constraints associated with industry-funded monitoring cost responsibilities have prevented the National Marine Fisheries Service (NMFS) from approving recent industry-funded monitoring proposals, specifically Atlantic Herring Amendment 5, Atlantic Mackerel, Squid, and Butterfish Amendment 14, and Northeast (NE) Multispecies Framework Adjustment 48.

The Industry-Funded Monitoring Omnibus Amendment would provide the measures necessary for industry funding and available Federal funding to pay for additional monitoring to meet specific monitoring coverage targets for each FMP. This action is needed for the Councils to prioritize industry-funded monitoring programs across fishery management plans when available Federal funding falls short of the total needed to fully fund all monitoring programs. This omnibus amendment would also ensure consistency for industry-funded monitoring programs across New England and Mid-Atlantic FMPs. **This amendment would not affect the existing industry-funded monitoring programs for the Atlantic Scallop and NE Multispecies FMPs.**

This amendment includes a set of omnibus alternatives that would modify all the FMPs managed by the New England and MAFMCs to allow standardized, streamlined development of future FMP-specific industry-funded monitoring programs. Additionally, this amendment includes alternatives for specific industry-funded monitoring programs for the Atlantic Herring FMP and the Atlantic Mackerel, Squid, and Butterfish FMP, which would be implemented as part of this action.

## 1.2 WHAT IS THE PURPOSE OF THIS AMENDMENT?

The omnibus alternatives would allow the NEFMC and MAFMC to develop industry-funded monitoring programs for the collection of information in addition to SBRM. Additionally, if there are Federal funding shortfalls, the omnibus alternatives would allow the NEFMC and MAFMC to identify priorities to allocate available Federal funding across industry-funded monitoring programs.

Alternatives for the Atlantic herring and Atlantic mackerel fisheries are intended to help improve estimates of catch tracked against harvest limits and fishery catch caps.

## 1.3 WHAT MANAGEMENT MEASURES ARE THE COUNCILS PROPOSING?

The NEFMC and MAFMC selected Omnibus Alternatives 2 and 2.1 as preferred alternatives. Omnibus Alternative 2 would allow for a standardized structure for all new industry-funded monitoring programs developed for NEFMC and MAFMC FMPs. Omnibus Alternative 2.2 would specify that the NEFMC and MAFMC evaluate how to prioritize available Federal funding across new industry-funded monitoring programs. Neither of these alternatives would affect the existing industry-funded monitoring programs for the Atlantic Scallop and NE Multispecies FMPs.

The NEFMC has not yet selected a preferred alternative for the Atlantic herring fishery and the MAFMC has not yet selected a preferred alternative for the Atlantic mackerel fishery.

## 1.4 WHICH ALTERNATIVES WOULD APPLY TO ALL FMPS?

The Omnibus Alternatives consider (1) standard cost responsibilities associated with industry-funded monitoring for NMFS and the fishing industry, (2) a process for FMP-specific industry-funded monitoring to be implemented via a future framework adjustment action, (3) standard administrative requirements for industry-funded monitoring service providers, (4) a process to prioritize industry-funded monitoring programs in order to allocate available Federal resources across all FMPs, and (5) a process for monitoring set-aside programs to be implemented via a future framework adjustment action. The NEFMC and MAFMC selected Omnibus Alternative 2 as the preferred alternative.

Omnibus Alternative 1 (No Action) – No standardized structure for industry-funded monitoring programs

- No standard definition of cost responsibilities of industry and NMFS;
- No standardized framework adjustment process to implement future industry-funded monitoring programs in other FMPs;
- No standardized observer service provider requirements;
- No process for prioritizing industry-funded monitoring programs in order to allocate available Federal resources across all FMPs; and
- No standardized framework adjustment process to implement future monitoring set-aside programs.

Omnibus Alternative 2 (Preferred Alternative) – Standardized structure for industry-funded monitoring programs and option for monitoring set-aside provision.

- Standard definition for cost responsibilities of industry and NMFS;
- Standard framework adjustment process to implement future industry-funded monitoring programs in other FMPs;
- Standard observer service provider requirements;
- Process for prioritizing industry-funded monitoring programs in order to allocate available Federal resources across all FMPs; and

- Option for standard framework adjustment process to implement future monitoring set-aside programs.

Omnibus Alternatives 2.1-2.5 are variations on the prioritization process in Omnibus Alternative 2, and consider specific options for what to do when Federal funding is not sufficient to cover NMFS costs to support the Council's desired monitoring coverage level for a given FMP. The NEFMC and MAFMC selected Omnibus Alternative 2.2 as the preferred alternative.

1. Omnibus Alternative 2.1 – NMFS-led prioritization process. NMFS prepares analysis and prioritization in consultation with the Councils.
2. Omnibus Alternative 2.2 (Preferred Alternative) – Council-led prioritization process. Council prepares analysis and recommended priorities to NMFS.
3. Omnibus Alternative 2.3 – Proportional prioritization process. Available Federal funding would be allocated proportionally among all industry-funded monitoring programs.
4. Omnibus Alternative 2.4 – Coverage ratio-based prioritization process. The amount of available Federal funding would be allocated to each FMP relative to the extra coverage needed and total fleet activity. Alternative 2.4 would favor coverage for the FMPs that do not need much additional monitoring to meet coverage targets and have the most active fleets.
5. Omnibus Alternative 2.5 – Coverage ratio-based prioritization process. The amount of available Federal funding would be allocated to each FMP relative to the extra coverage needed and total fleet activity. Alternative 2.5 would favor coverage for the FMPs that need more additional monitoring to meet coverage targets and have the least active fleets.

Omnibus Alternative 2.6 – Monitoring Set-Aside
This alternative would provide a structure to develop future monitoring set-aside programs which could generally consist of reserving a portion of the annual catch limit for a fishery to assist in funding vessel/non-governmental costs for additional monitoring coverage beyond the SBRM requirements. No monitoring set-aside program would be directly established by this action.

## 1.5 WHICH TYPES OF MONITORING ARE BEING CONSIDERED FOR THE ATLANTIC HERRING AND ATLANTIC MACKEREL FISHERIES?

This amendment considers three types of monitoring for the herring and mackerel fisheries, including Northeast Fisheries Observer Program-level (NEFOP-level) observer coverage, at-sea monitoring (ASM) coverage, and electronic monitoring (EM) and portside sampling coverage.

NEFOP-level observers would collect the following information on fishing trips:

- Fishing gear information (size of nets and dredges, mesh sizes, and gear configurations);
- Tow-specific information (depth, water temperature, wave height, and location and time when fishing begins and ends);
- Data on retained and discarded catch (species, weight, composition);

- Whole specimens, photos, length information, and biological samples (scales, otoliths, and/or vertebrae from fish, invertebrates, and incidental takes);
- Information on interactions with protected species (sea turtles, marine mammals, and birds); and
- Vessel trip costs (operational costs for trip including food, fuel, oil, and ice).

At-sea monitors would collect the following information on fishing trips:

- Fishing gear information (size of nets and dredges, mesh sizes, and gear configurations);
- Tow-specific information (depth, water temperature, wave height, and location and time when fishing begins and ends);
- Data on retained and discarded catch (species, weight, composition);
- Length data from retained and discarded catch;
- Information on interactions with protected species (sea turtles, marine mammals, and birds); and
- Vessel trip costs (operational costs for trip including food, fuel, oil, and ice).

EM and Portside sampling would collect the following information on fishing trips:

- EM would be used to verify retention of catch for sampling portside; and
- Portside samplers would collect:
    - Data on retained and discarded catch (species, weight, composition); and
    - Age and length data from retained and discarded catch.

## 1.6 WHICH ALTERNATIVES WOULD APPLY TO THE ATLANTIC HERRING FISHERY?

The NEFMC is interested in increasing catch monitoring in the Atlantic herring fishery to address the following goals and objectives: (1) Accurate estimates of catch (retained and discarded), (2) accurate catch estimates for incidental species for which catch caps apply, and (3) affordable monitoring for the herring fishery. The Herring Alternatives provide a range of data collection and monitoring costs through various monitoring types including Northeast Fisheries Observer Program (NEFOP)-level observing, at-sea monitoring (ASM), and electronic monitoring (EM) and portside sampling. Existing industry reporting requirements and observer coverage to meet SBRM, ESA, and MMPA requirements under the No Action alternative would continue. Any information collected under the herring coverage target action alternatives would be in addition to existing reporting and monitoring.

### TABLE 1. RANGE OF INDUSTRY-FUNDED MONITORING HERRING COVERAGE TARGET ALTERNATIVES

| Gear Type | Midwater Trawl | Purse Seine | Small Mesh Bottom Trawl |
|---|---|---|---|
| **Herring Alternative 1:** No Coverage Target for IFM Program (No Action) | SBRM | | |
| **Herring Alternative 2:** Coverage Targets for IFM Program | Includes Sub-Options: 1) Wavier Allowed, 2) Wing Vessel Exemption, 3) 2 Year Sunset, 4) 2 Year Re-evaluation, and 5) 25 mt Threshold | | |
| **Herring Alternative 2.1:** 100% NEFOP-Level Coverage on Category A and B Vessels | 100% NEFOP-Level Observer | | |
| **Herring Alternative 2.2:** ASM Coverage on Category A and B Vessels | 25%, 50%, 75% or 100% ASM | | |
| **Herring Alternative 2.3:** Combination Coverage on Category A and B Vessels and Midwater Trawl Fleet | 50% or 100% EM/Portside | 25%, 50%, 75% or 100% ASM | |
| **Herring Alternative 2.4:** EM and Portside Coverage on Midwater Trawl Fleet | 50% or 100% EM/Portside | SBRM (No Action) | |
| **Herring Alternative 2.5:** 100% NEFOP-Level Coverage on Midwater Trawl Fleet in Groundfish Closed Areas* | 100% NEFOP-Level Coverage | SBRM (No Action) | |
| **Herring Alternative 2.6:** Combination Coverage on Midwater Trawl Fleet in Groundfish Closed Areas | Coverage would match selected alternative 2.1-2.4 or 2.7 | SBRM (No Action) | |
| **Herring Alternative 2.7:** ASM Coverage on Category A and B Vessels, then Vessels may choose either ASM or EM/Portside Coverage | 25%, 50%, 75% or 100% ASM or EM/Portside | 25%, 50%, 75% or 100% ASM or EM/Portside | 25%, 50%, 75% or 100% ASM or EM/Portside |
| * Sub-Options do not apply to Herring Alternative 2.5. | | | |

As noted in the table above, Herring Alternative 2 would allow several sub-options to apply to the herring coverage target alternatives. Sub-options could apply to any of the alternatives except Herring Alternative 2.5.

- Sub-Option 1 would allow vessels to be issued waivers to exempt them from industry-funded monitoring requirements, for either a trip or the fishing year, if coverage was unavailable due to funding or logistics. Selection of this sub-option preserves the NEFMC's intent for additional monitoring in the herring fishery, but would not prevent vessels from participating in the herring fishery if monitoring coverage was not available. **Should the NEFMC not select Sub-Option 1, then fishing effort would be reduced to match the available level of monitoring (i.e., the fleet would not fish if NMFS does not have funding to support the administration of the program).** Reducing fishing effort to match available monitoring may lack sufficient justification and be inconsistent with National Standards.

- Sub-Option 2 would exempt a wing vessel pair trawling with another vessel from industry-funded monitoring requirements, provided the vessel does not carry any fish.
- Sub-Option 3 would require that industry-funded monitoring requirements expire two years after implementation.
- Sub-Option 4 would require the NEFMC to examine the results of any increased coverage in the herring fishery two years after implementation, and consider if adjustments to the coverage targets are warranted. Depending on the results and desired actions, subsequent action to adjust the coverage targets could be accomplished via a framework adjustment or an amendment to the Herring FMP, as appropriate.
- Sub-Option 5 would exempt trips that land less than 25 mt of herring from industry-funded monitoring requirements.

Under Herring Alternative 1 (No Action), there would be no coverage target specified for an industry-funded monitoring program in the Herring FMP. Observer coverage for herring vessels would be allocated according to SBRM, and there would be no additional cost to the herring industry for monitoring coverage. If there was Federal funding available after SBRM coverage requirements were met, additional monitoring for the herring fishery would be evaluated on a case-by-case basis.

Under Herring Alternative 2, the NEFMC would specify the details of an industry-funded monitoring program for the Herring FMP. These details may include, but are not limited to: (1) Level and type of coverage target, (2) rationale for level and type of coverage, (3) minimum level of coverage necessary to meet coverage goals, (4) consideration of coverage waivers if coverage target cannot be met, (5) process for vessel notification and selection, (6) process for payment of industry cost responsibilities, (7) standards for monitoring service providers, and (8) any other measures necessary to implement the industry-funded monitoring program. Additional National Environmental Policy Act (NEPA) analysis would be required for any subsequent FMP framework adjustment action implementing and/or modifying the specified industry-funded monitoring programs.

Herring Alternatives 2.1-2.7 specify specific monitoring options for the herring fishery. Alternatives differ by monitoring type, coverage target, and how coverage is allocated. The NEFMC has not yet selected a preferred herring coverage target alternative.

1. Herring Alternative 2.1 – Vessels with All Areas (Category A) and Areas 2/3 (Category B) Limited Access Herring Permits would be required to carry a NEFOP-level observer on every declared herring trip.
2. Herring Alternative 2.2 – Vessels with Category A and B herring permits would be required to carry an at-sea monitor on every declared herring trip selected for coverage by NMFS. Vessels would be selected to carry an at-sea monitor by NMFS to meet the at-sea monitor coverage target (25%, 50%, 75%, or 100%) specified in this action.
3. Herring Alternative 2.3 – Vessels with Category A and B herring permits using purse seine and small mesh bottom trawl gear would be required to carry an at-sea monitor

on every declared herring trip selected for coverage by NMFS. Vessels would be selected to carry an at-sea monitor by NMFS to meet the at-sea monitor coverage target (25%, 50%, 75%, or 100%) specified in this action. Additionally, midwater trawl vessels would be required to carry an operating EM system on every trip declared into the herring fishery and allow portside sampling of catch on declared herring trips selected for coverage by NMFS. The intention of the NEFMC would be that all declared herring trips by midwater trawl vessels would have some percentage of EM footage sampled (50% or 100%) and that same percentage of trips sampled portside (50% or 100%).

4. Herring Alternative 2.4 – Midwater trawl vessels would be required to carry an operating EM system on every trip declared into the herring fishery and allow portside sampling of their catch on declared herring trip selected for coverage by NMFS. The intention of the NEFMC would be that all declared herring trips by midwater trawl vessels would have some percentage of EM footage sampled (50% or 100%) and that same percentage of trips sampled portside (50% or 100%).
5. Herring Alternative 2.5 – Vessels fishing with midwater trawl gear would be required to carry a NEFOP-level observer on every trip into the Groundfish Closed Areas.
6. Herring Alternative 2.6 – Vessels fishing with midwater trawl gear would be required to comply with any ASM or EM and portside monitoring requirements selected in this action for the herring fishery (i.e., Herring Alternatives 2.2-2.4 or 2.7) on every trip into the Groundfish Closed Areas.
7. Herring Alternative 2.7– Initially, vessels with Category A and B herring permits would be required to carry an at-sea monitor on every declared herring trip selected for coverage by NMFS. Vessels would be selected to carry an at-sea monitor by NMFS to meet the ASM coverage target (25%, 50%, 75%, or 100%) specified in this action. If the NEFMC determines that EM and portside sampling is an adequate substitute for ASM coverage aboard midwater trawl vessels, then Category A and B vessels using midwater trawl gear would be able to choose whether to use ASM or EM and portside sampling coverage. The NEFMC may select a different coverage target for each monitoring type (ASM or EM and portside sampling) and each gear type (midwater trawl, purse seine, bottom trawl).

## 1.7 WHICH ALTERNATIVES WOULD APPLY TO THE ATLANTIC MACKEREL FISHERY?

The MAFMC is interested in increasing catch monitoring in the Atlantic mackerel fishery to address the following goals and objectives: (1) Accurate estimates of catch (retained and discarded), (2) accurate catch estimates for incidental species for which catch caps apply, and (3) effective and affordable monitoring for the mackerel fishery. The Mackerel Alternatives provide a range of data collection and monitoring costs through various monitoring types including NEFOP-level observing, ASM, and EM and portside sampling. Existing industry reporting requirements and observer coverage to meet SBRM, ESA, and MMPA requirements under the No Action alternative would continue. Any information collected under the mackerel coverage target action alternatives would be in addition to existing reporting and monitoring.

### TABLE 2. RANGE OF INDUSTRY-FUNDED MONITORING MACKEREL COVERAGE TARGET ALTERNATIVES

| Gear Type | MWT | SMBT | SMBT | SMBT |
|---|---|---|---|---|
| **Permit Categories** | All Tiers | Tier 1 | Tier 2 | Tier 3 |
| **Mackerel Alternative 1:** No Coverage Target for IFM Program (No Action) | SBRM | | | |
| **Mackerel Alternative 2:** Coverage Target for IFM Program | Includes Sub-Options: 1) Waiver Allowed, 2) Wing Vessel Exemption, 3) 2 Year Sunset, 4) 2 Year Re-evaluation, and 5) 25 mt Threshold | | | |
| **Mackerel Alternative 2.1:** NEFOP-Level Coverage | 100% NEFOP-Level Observer | | 50% NEFOP-Level Observer | 25% NEFOP-Level Observer |
| **Mackerel Alternative 2.2:** ASM Coverage | 25%, 50%, 75%, or 100% ASM | | SBRM (No Action) | |
| **Mackerel Alternative 2.3**: Combination Coverage | 50% or 100% EM/Portside | 25%, 50%, 75%, or 100% ASM | SBRM (No Action) | |
| **Mackerel Alternative 2.4:** EM and Portside Coverage | 50% or 100% EM/Portside | SBRM (No Action) | | |
| **Mackerel Alternative 2.5:** ASM Coverage on MWT Vessels, then Vessels may choose either ASM or EM/Portside Coverage | 25%, 50%, 75% or 100% ASM or EM/Portside | SBRM (No Action) | | |
| MWT indicates midwater trawl and SMBT indicates small mesh bottom trawl vessels. | | | | |
| Mackerel Alternatives would only apply to trips that land greater than 20,000 lb of mackerel. Sub-Options could apply to any of the alternatives. | | | | |

As noted in the table above, Mackerel Alternative 2 would allow several sub-options to apply to the mackerel coverage target alternatives. Sub-options could apply to any of the Mackerel Alternatives (2.1-2.4).

- Sub-Option 1 would allow vessels to be issued waivers to exempt them from industry-funded monitoring requirements, for either a trip or the fishing year, if coverage was unavailable due to funding or logistics. Selection of this sub-option preserves the MAFMC's intent for additional monitoring in the mackerel fishery, but would not prevent vessels from participating in the mackerel fishery if monitoring coverage was not available. **Should the MAFMC not select Sub-Option 1, then fishing effort would be reduced to match the available level of monitoring (i.e., the fleet would not fish if NMFS does not have funding to support the administration of the program).** Reducing fishing effort to match available monitoring may lack sufficient justification and be inconsistent with National Standards.

- Sub-Option 2 would exempt a wing vessel pair trawling with another vessel from industry-funded monitoring requirements, provided the vessel does not carry any fish.
- Sub-Option 3 would require that industry-funded monitoring requirements expire two years after implementation.
- Sub-Option 4 would require the MAFMC to examine the results of any increased coverage in the mackerel fishery two years after implementation, and consider if adjustments to the coverage targets are warranted. Depending on the results and desired actions, subsequent action to adjust the coverage targets could be accomplished via a framework adjustment or an amendment to the MSB FMP, as appropriate.
- Sub-Option 5 would exempt trips that land less than 25 mt of mackerel from industry-funded monitoring requirements.

Under Mackerel Alternative 1 (No Action), there would be no coverage target specified for an industry-funded monitoring program in the mackerel fishery. Observer coverage for mackerel vessels would be allocated according to SBRM, and there would be no additional cost to the mackerel industry for observer coverage. If there was Federal funding available after SBRM coverage requirements were met, additional monitoring for the mackerel fishery would be evaluated on a case-by-case basis.

Under Mackerel Alternative 2, the MAFMC would specify the details of an industry-funded monitoring program for the mackerel fishery. These details may include, but are not limited to: (1) Level and type of coverage target, (2) rationale for level and type of coverage, (3) minimum level of coverage necessary to meet coverage goals, (4) consideration of coverage waivers if coverage target cannot be met, (5) process for vessel notification and selection, (6) process for payment of industry cost responsibilities, (7) standards for monitoring service providers, and (8) any other measures necessary to implement the industry-funded monitoring program. Additional NEPA analysis would be required for any subsequent FMP framework adjustment action implementing and/or modifying the specified industry-funded monitoring programs.

Mackerel Alternatives 2.1-2.5 specify specific industry-funded monitoring options for the mackerel fishery. Alternatives differ by monitoring type, coverage target, and how coverage is allocated. These monitoring requirements would apply to trips landing more than 20,000 lb of mackerel. The MAFMC has not yet selected a preferred mackerel coverage target alternative.

1. Mackerel Alternative 2.1 – Vessels would be required comply with the following levels of NEFOP-level observer coverage on declared mackerel trips:
    - 100% coverage on all limited access vessels using midwater trawl gear,
    - 100% coverage on vessels with Tier 1 mackerel permits using small mesh bottom trawl gear,
    - 50% coverage on vessels with Tier 2 mackerel permits using small mesh bottom trawl gear, and

- 25% coverage on vessels with Tier 3 mackerel permits using small mesh bottom trawl gear.

2. Mackerel Alternative 2.2 – Vessels with limited access mackerel permits using midwater trawl gear and vessels with Tier 1 mackerel permits using small mesh bottom trawl gear would be required to carry an at-sea monitor on every declared mackerel trip selected for coverage by NMFS. Vessels would be selected to carry an at-sea monitor by NMFS to meet the at-sea monitor coverage target (25%, 50%, 75%, or 100%) specified in this action.
3. Mackerel Alternative 2.3 – Vessels with Tier 1 mackerel permits and using small mesh bottom trawl gear would be required to carry an at-sea monitor on every declared mackerel trip selected for coverage by NMFS. Vessels would be selected to carry an at-sea monitor by NMFS to meet the at-sea monitor coverage target (25%, 50%, 75%, or 100%) specified in this action. Additionally, vessels with limited access mackerel permits using midwater trawl gear would be required to carry an operating EM system on every trip declared into the mackerel fishery and allow portside sampling of their catch on every declared mackerel trip selected for coverage by NMFS. The intention of the MAFMC would be that all declared mackerel trips by midwater trawl vessels would have some percentage of EM footage sampled (50% or 100%) and that same percentage of trips sampled portside (50% or 100%)
4. Mackerel Alternative 2.4 – Vessels with limited access mackerel permits using midwater trawl gear would be required to carry an operating EM system on every trip declared into the mackerel fishery and allow portside sampling of their catch on every declared mackerel trip selected for coverage by NMFS. The intention of the MAFMC would be that all declared mackerel trips by midwater trawl vessels would have some percentage of EM footage sampled (50% or 100%) and that same percentage of trips sampled portside (50% or 100%).
5. Mackerel Alternative 2.5 – Initially, limited access vessels using midwater trawl gear would be required to carry an at-sea monitor on every declared mackerel trip selected for coverage by NMFS. Vessels would be selected to carry an at-sea monitor by NMFS to meet the ASM coverage target (25%, 50%, 75%, or 100%) specified in this action. If the MAFMC determines that EM and portside sampling is an adequate substitute for ASM coverage aboard midwater trawl vessels, then limited access vessels using midwater trawl gear would be able to choose whether to use ASM or EM and portside sampling coverage. The MAFMC may select a different coverage targets for each monitoring type (ASM and EM and portside).

## 1.8 WHAT ARE THE IMPACTS OF MEASURES THAT WOULD APPLY TO ALL FMPS?

This section considers the potential impacts of alternatives considered by the NEFMC and MAFMC to standardize future industry-funded monitoring programs on valued ecosystem components (VECs), including target species, non-target species, protected species, physical environment, and fishery-related business and communities.

The omnibus alternatives (Omnibus Alternatives 1, 2, and 2.1-2.6) in this amendment are procedural in nature—focused on standardizing and streamlining the establishment of future industry-funded monitoring programs. Therefore, there are no expected direct physical or biological impacts associated with the alternatives under consideration for the omnibus portions of the action.

There are three reasons why direct biological and physical impacts of this action are considered too remote and speculative to be appropriate for consideration in this amendment.
First, selection of Omnibus Alternative 2 (Action Alternative) does not automatically allow for increased monitoring coverage. While increases in monitoring coverage for some fisheries may be expected to improve data quality, any realized improvement in data quality is contingent upon sufficient Federal funding to expand coverage beyond SBRM.

Second, there is no way to predict the effect that an improvement in data quality would have for managing the affected fisheries. Improvements to data quality are expected to give scientists and fishery managers more confidence in the data; however, there is no way to predict the type of new information that would arise from improved catch estimations.
Third, management measures that might be implemented, if increased monitoring leads to a determination that an action is necessary to address a management concern, also cannot be predicted. For example, some management concerns may best be addressed with a bycatch quota, others may best be addressed with an area or seasonal closure, and yet others may best be addressed through changes to the fishing gear used.

However, there would be direct economic impacts to fishing vessels as a result of the NEFMC and MAFMC selecting Omnibus Alternative 2 if an industry-funded monitoring program is established for the FMP and Federal funding is available to cover all, or a portion, of the costs of industry-funded monitoring programs, after SBRM coverage requirements are met.

The indirect impacts of the omnibus alternatives on the biological resources (target species, non-target species, and protected species) and fishery-related businesses and communities are summarized in Table 3. The indirect impacts of the various aspects of the Omnibus Alternatives on fishery-related business and communities are summarized in Table 3, but should be interpreted within the context of the overall economic impacts being negative.

Any future management actions that may result from the information collected through industry-funded monitoring programs would be subject to all the requirements of the National Environmental Policy Act at the appropriate time.

### TABLE 3. SUMMARY OF THE INDIRECT IMPACTS OF OMNIBUS ALTERNATIVES

| Alternatives | Impacts on Biological Resources | Impacts on Fishery-Related Businesses and Communities |
|---|---|---|
| **Alternative 1:** No Industry-Funded Monitoring Programs (No Action) | Potential low negative impact related to allocating funding to industry-funded monitoring programs on a case-by-case basis (rather than aligning to Council priorities) | Potential low negative impact related to continued uncertainty about true discard rates (could lead to overly cautious management) |
| **Alternative 2**: Industry-Funded Monitoring Programs (Action Alternative) | Negligible impact related to standardized cost responsibilities and process for future industry-funded programs implemented via framework<br><br>Potential low positive impact related to standardized service provider requirements and process to prioritize additional monitoring | Potential low positive impact related to standardized cost responsibilities and process for future industry-funded programs implemented via framework<br><br>Potential low positive impact related to establishing service provider requirements and process to prioritize additional monitoring |
| **Alternative 2.1:** NMFS-Led Prioritization Process | Potential low positive impact because all industry-funded programs are considered; compared to other prioritization processes allows an evaluation of program need/design when assigning priority | Potential low positive impact because all industry-funded programs are considered; compared to other prioritization processes allows an evaluation of program need/design when assigning priority |
| **Alternative 2.2:** Council-Led Prioritization Process (*Preferred Alternative*) | | |
| **Alternative 2.3:** Proportional Prioritization Process | Potential low positive impact related to information collection because process considers all industry-funded programs<br><br>Does not allow for prioritization based on program need/design | Potential low positive impact related to information collection because process considers all industry-funded programs<br><br>Does not allow for prioritization based on program need/design |
| **Alternative 2.4 and 2.5:** Coverage Ratio-Based Prioritization Processes | | |
| **Alternative 2.6** Monitoring Set-Aside | Negligible impact related to standardized process for monitoring set-asides implemented via framework | Negligible impact related to standardized process for monitoring set-asides implemented via framework |
| *Impacts to physical environment were not discussed in this table because they are negligible. These alternatives will not alter fishing behavior, or directly impact fishing regulations (gears used or areas fished).* | | |

## 1.9 WHAT ARE THE IMPACTS OF MEASURES THAT WOULD APPLY TO THE ATLANTIC HERRING FISHERY?

This section considers the potential impacts of alternatives considered by the NEFMC to specify industry-funded monitoring coverage targets for the herring fishery on VECs, including target species, non-target species (river herring, shad, haddock, and mackerel), protected species (fish, sea turtles, and marine mammals), physical environment, and human communities.

### 1.9.1 IMPACTS OF HERRING ALTERNATIVES ON BIOLOGICAL RESOURCES

The impacts of the Herring Alternatives (1, 2, and 2.1-2.7) on biological resources (herring resource, non-target species, and protected species) are summarized below.

In general, the impacts of these herring alternatives on biological resources are indirect because they affect levels of monitoring rather than harvest specifications. Indirect benefits to the biological resources are possible if increased monitoring can reduce uncertainty of catch tracked against catch limits and generate more information for stock assessments. However, these alternatives may lead to direct positive impacts on biological resources if fishing effort is limited, either through monitoring availability or catch tracked against catch limits, leading to increased reproductive potential of biological resources.

The impacts of these herring alternatives on biological resources are not significant because they would not cause any biological resource to become overfished, would not result in overfishing, and/or would not cause a change in population status.

The biological impact of Herring Alternative 1 (No Action) is low positive because monitoring coverage is allocated by SBRM, but there is no additional monitoring to reduce uncertainty around catch and bycatch estimates.

The biological impact of Herring Alternative 2 (Coverage Targets for IFM Program) is generally positive because there would be additional monitoring to reduce the uncertainty around catch estimates, but the magnitude of the impact is dependent on the type of information collected, how coverage is allocated, amount of coverage, and amount of available Federal funding. Overall, likely a low positive biological impact is associated with Herring Alternatives 2.1-2.7.

*Type of Information Collected*

A positive biological impact is expected if data are collected on both retained and discarded catch (Herring Alternatives 2.1, 2.2, 2.3 (ASM), and 2.7 (ASM)) and a low positive impact if data are collected on just retained catch (Herring Alternatives 2.3 (EM and Portside), 2.4, and 2.7 (EM and Portside). But since discards are minimal in the herring fishery, a similar positive impact is likely if data are collected on just retained catch.

*How Coverage is Allocated*

Data collected by vessel permit category can be used for catch limit and catch cap monitoring, while data collected by fleet can be used for catch monitoring and generating discard estimates for stock assessments. Therefore, a low positive biological impact is expected when coverage is allocated by vessel permit category (Herring Alternatives 2.1, 2.2, 2.3 (ASM), and 2.7) and a positive biological impact is expected when coverage is allocated by fleet (Herring Alternative 2.4). However, the only alternative allocating coverage by fleet would not be collecting an estimate of discards. Additionally, vessels with Category A and B herring permits harvest approximately 98% of total herring catch, compared to the midwater trawl fleet that harvests approximately 73% of total herring catch. Therefore, a similar low positive impact is likely if coverage is allocated by permit or by fleet.

If coverage is only allocated to groundfish closed areas (Herring Alternatives 2.5 and 2.6), then a low positive biological impact is likely because the area of coverage is limited.

Regarding Sub-Option 5 (25 mt threshold for IFM requirements), catch caps apply on trips that land more than 6,600 lb of herring. Sub-Option 5 would only require IFM monitoring on trips that land more than 25 mt of herring. So a low negative impact would be associated with Sub-Option 5 if it biases data used to track catch against catch caps.

*Amount of Coverage*

The coefficient of variation (CV) is the relative measure of variance of an estimate. Although there is no defined CV for herring alternatives, results of a simulation of coverage targets (25%, 50%, 75%, and 100%) were compared to a 30% CV for context. A positive biological impact may be possible if the CVs associated with fishery catch caps (haddock and river herring/shad) are less than 30%. Analyses suggest that a 50% coverage target is likely to generate CVs less than 30% almost all of the time and a 25% coverage target is likely to generate CVs less than 30% most of the time.

A positive impact is associated with Sub-Option 1 (Waiver Allowed for IFM Requirements) not being selected, if fishing effort is limited, either due to funding or logistics, and the reproductive potential of herring, non-target species, and protected species is increased.

### 1.9.2 IMPACTS OF HERRING ALTERNATIVES ON THE PHYSICAL ENVIRONMENT

The impact of the herring fishery on the physical environment is thought to be minimal and temporary. Therefore, the expected impact on the physical environment of increased monitoring in the herring fishery is expected to be negligible under both Herring Alternatives 1 and 2 (2.1-2.7).

### 1.9.3 IMPACTS OF HERRING ALTERNATIVES ON FISHERY-RELATED BUSINESSES AND COMMUNITITIES

The impacts of the Herring Alternatives (1, 2, and 2.1-2.7) on fishery-related businesses and communities are summarized below.

The direct economic impact of Herring Alternative 1 (No Action) is low positive because there is no industry-funded monitoring. However, if this alternative is chosen, there would be no additional monitoring above SBRM to reduce uncertainty around catch and bycatch estimates.

The direct economic impact of Herring Alternative 2 (Coverage Targets for IFM Program) is negative because the herring industry would be paying for additional monitoring coverage. The magnitude of the impact is primarily dependent upon the type and amount of monitoring coverage. Overall, a negative economic impact is associated with Herring Alternatives 2.1-2.7.

An indirect positive impact would result if increased monitoring decreases the uncertainty around catch estimates tracked against catch caps such that vessels would be more likely to be able to fully harvest the herring ACL without being constrained by catch caps. An indirect negative impact would result if increased monitoring shows higher than expected catch of haddock, river herring, and shad such that vessels would be less likely to be able to fully harvest the herring ACL because they were constrained by catch caps.

Direct impacts result from reductions in return to owner (RTO). RTO is calculated by subtracting fixed and operational costs from gross revenue and is used rather than net revenues (gross revenue minus only operational costs) to more accurately reflect income from fishing trips. Reductions in RTO are related to paying for monitoring coverage and possible reductions in fishing effort to match monitoring availability and would vary in magnitude by alternative. Indirect economic impacts on herring vessels result from increased monitoring and relate to whether or not vessels would be able to fully harvest herring catch limits.

The industry cost responsibility associated with NEFOP-level observer coverage is the most expensive ($818 per sea day) followed by ASM ($710 per sea day), and EM ($172-$325 per sea day) and portside sampling ($3.84-$5.12 per mt).

Table 4 describes the potential reduction to RTO associated with paying for monitoring coverage across herring coverage target alternatives. Shaded cells in the following table indicate when the potential reduction to RTO associated with paying for monitoring coverage exceeds 10%.

### TABLE 4. POTENTIAL REDUCTION TO RETURN-TO-OWNER FOR HERRING COVERAGE TARGET ALTERNATIVES.

| Alternative | Gear Type | Paired Midwater Trawl | | Single Midwater Trawl | | Purse Seine | | Small Mesh Bottom Trawl | |
|---|---|---|---|---|---|---|---|---|---|
| | Median potential reduction to RTO from coverage | ≥1 lb | > 25 MT | ≥1 lb | > 25 MT | ≥1 lb | > 25 MT | ≥1 lb | > 25 MT |
| **2.1** | 100% NEFOP-level | 44.7% | 42.2% | 24.4% | 5.8% | 13.9% | 10.4% | 11.5% | 14.2% |
| **2.2 and 2.3** | 100% ASM | 38.9% | 36.7% | 21.3% | 5.1% | 12.1% | 9.1% | 10.0% | 12.3% |
| | 75% ASM | 29.5% | 28.2% | 15.9% | 3.8% | 9.1% | 6.8% | 7.5% | 9.4% |
| | 50% ASM | 20.4% | 18.9% | 10.5% | 2.5% | 6.0% | 4.5% | 5.4% | 6.4% |
| | 25% ASM | 10.1% | 9.6% | 5.6% | 1.4% | 3.0% | 2.2% | 3.5% | 3.8% |
| **2.3 and 2.4** | 100% EM/PS Year 1 | 42.2% | 40.1% | 37.3% | 19.5% | N/A | | N/A | |
| | 100% EM/PS Year 2 | 29.1% | 27.5% | 12.8% | 4.9% | | | | |
| | 50% EM/PS Year 1 | 25.1% | 24.2% | 26.7% | 16.9% | | | | |
| | 50% EM/PS Year 2 | 14.4% | 13.3% | 6.9% | 2.4% | | | | |
| **2.5** | 100% NEFOP-level | 5.4% | 5.4% | 1.0% | 1.0% | | | | |
| **2.6** | Potential Reduction to RTO would depend on which other Herring Alternative was selected (2.2-2.4 or 2.7) | | | | | | | | |
| **2.7** | Potential Reduction to RTO would be the same as Herring Alternatives 2.2 and 2.3 | | | | | | | | |
| | 100% EM/PS Year 1 | 42.3% | 39.7% | 38.1% | 29.2% | 19.4% | 18.3% | 21.0% | 19.9% |
| | 100% EM/PS Year 2 | 29.2% | 27.1% | 17.3% | 6.2% | 15.3% | 14.1% | 6.3% | 8.8% |
| | 75% EM/PS Year 1 | 25.6% | 24.8% | 27.6% | 23.5% | 13.0% | 12.6% | 16.8% | 15.4% |
| | 75% EM/PS Year 2 | 14.8% | 13.7% | 8.5% | 3.3% | 8.1% | 7.6% | 3.0% | 4.3% |
| | 50% EM/PS Year 1 | 19.8% | 19.3% | 23.7% | 21.1% | 10.5% | 10.3% | 14.3% | 13.8% |
| | 50% EM/PS Year 2 | 9.5% | 8.8% | 5.4% | 2.1% | 5.3% | 4.9% | 1.8% | 2.7% |
| | 25% EM/PS Year 1 | 14.4% | 14.2% | 20.0% | 18.8% | 8.2% | 8.4% | 13.3% | 12.4% |
| | 25% EM/PS Year 2 | 4.5% | 4.2% | 2.5% | 1.0% | 2.6% | 2.4% | 0.8% | 1.3% |

For EM/Portside Costs = Year 1 includes $15,000 for purchase and installation of EM equipment and Year 2 does not include the $15,000 purchase and installation costs.

### TABLE 5. SUMMARY OF OVERALL IMPACTS ASSOCIATED WITH HERRING COVERAGE TARGET ALTERNATIVES

| Alternatives | Herring Resource | Non-Target Species | Protected Species | Physical Environment | Fishery-Related Businesses and Communities |
|---|---|---|---|---|---|
| Herring Alternative 1: No Coverage Target Specified For IFM Programs (No Action) | Low Positive | Low Positive | Low Positive | Negligible | Low Positive |
| Herring Alternative 2: Coverage Target Specified For IFM Programs | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Herring Alternative 2.1: 100% NEFOP-Level Coverage on Category A and B Vessels | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Herring Alternative 2.2: ASM Coverage on Category A and B Vessels | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Herring Alternative 2.3: Combination Coverage on Category A and B Vessels and Midwater Trawl Fleet | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Herring Alternative 2.4: EM and Portside Sampling on Midwater Trawl Fleet | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Herring Alternative 2.5: 100% NEFOP-Level Coverage on Midwater Trawl Fleet Fishing in Groundfish Closed Areas | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Herring Alternative 2.6: Combination Coverage on Midwater Trawl Fleet Fishing in Groundfish Closed Areas | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Herring Alternative 2.7: ASM Coverage on Category A and B Vessels, then Vessels may choose either ASM or EM/Portside Coverage | Low Positive | Low Positive | Low Positive | Negligible | Negative |

## 1.10 WHAT ARE THE IMPACTS OF MEASURES THAT WOULD APPLY TO THE ATLANTIC MACKEREL FISHERY?

This section considers the potential impacts of alternatives considered by the MAFMC to specify industry-funded monitoring coverage targets for the mackerel fishery on VECs, including target species, non-target species (river herring, shad, herring), protected species (fish, sea turtles, and marine mammals), physical environment, and human communities.

### 1.10.1 IMPACTS OF MACKEREL ALTERNATIVES ON BIOLOGICAL RESOURCES

The impacts of the Mackerel Alternatives (1, 2, and 2.1-2.5) on biological resources (mackerel resource, non-target species, and protected species) are summarized below.

In general, the impacts of these mackerel alternatives on biological resources are indirect because they affect levels of monitoring rather than harvest specifications. Indirect benefits to the biological resources are possible if increased monitoring can reduce uncertainty of catch tracked against catch limits and generate more information for stock assessments. However, these alternatives may lead to direct positive impacts on biological resources if fishing effort is limited, either through monitoring availability or catch tracked against catch limits, leading to increased reproductive potential of biological resources.

The impacts of these mackerel alternatives on biological resources are not significant because they would not cause any biological resource to become overfished, would not result in overfishing, and/or would not cause a change in population status.

The biological impact of Mackerel Alternative 1 (No Action) is low positive because monitoring coverage is allocated by SBRM. However, if this alternative is chosen, there would be no additional monitoring to reduce uncertainty around catch and bycatch estimates.

The biological impact of Mackerel Alternative 2 (Coverage Targets for IFM Program) is generally positive because there would be additional monitoring to reduce the uncertainty around catch estimates, but the magnitude of the impact is dependent on the type of information collected, how coverage is allocated, amount of coverage, and amount of available Federal funding. Overall, likely a low positive biological impact associated with Mackerel Alternatives 2.1-2.5.

*Type of Information Collected*

A positive biological impact is expected if data are collected on both retained and discarded catch (Mackerel Alternatives 2.1, 2.2, 2.3 (ASM), and 2.5 (ASM)) and a low positive impact if data are collected on just retained catch (Mackerel Alternatives 2.3 (EM and Portside), 2.4, and 2.5 (EM and Portside). But since discards are minimal in the mackerel fishery, a similar positive impact is likely if data are collected on just retained catch.

*How Coverage is Allocated*

Data collected by vessel permit category can be used for catch limit and catch cap monitoring, while data collected by fleet can be used for catch monitoring and generating discard estimates for stock assessments. Mackerel Alternatives 2.1-2.5 are all allocated by limited access permit category, therefore, a low positive biological impact is likely associated with Mackerel Alternatives 2.1-2.5.

Regarding Sub-Option 5 (25 mt threshold for IFM requirements), catch caps apply on trips that land more than 20,000 lb of mackerel. Sub-Option 5 would only require IFM monitoring on trips that land more than 25 mt of mackerel. So a low negative impact would be associated with Sub-Option 5 if it biases data used to track catch against catch caps.

*Amount of Coverage*

The coefficient of variation (CV) is the relative measure of variance of an estimate. Although there is no defined CV for mackerel alternatives, a positive biological impact may be possible if the CVs associated with the river herring and shad catch cap are less than 30%.

The design of Mackerel Alternatives 2.1-2.5 (by permit and gear) along with the limited amount of data tracked against the catch cap (only 2 years) made a simulation of the CVs associated with the river herring and shad catch cap infeasible. Instead, an analysis of 2014 and 2015 suggested that CVs associated with catch tracked against the river herring and shad catch cap decreased from 2014 (48.9%) to 2015 (22.7%). However, given the limited amount of data and few number of mackerel trips, it is difficult to infer a trend.

A positive impact is associated with Sub-Option 1 (Waiver Allowed for IFM Requirements) not being selected, if fishing effort is limited, either due to funding or logistics, and the reproductive potential of mackerel, non-target species, and protected species is increased.

### 1.10.2 IMPACTS OF MACKEREL ALTERNATIVES ON THE PHYSICAL ENVIRONMENT

The impact of the mackerel fishery on the physical environment is thought to be minimal and temporary. Therefore, the expected impact on the physical environment of increased monitoring in the mackerel fishery is expected to be negligible under both Mackerel Alternatives 1 and 2 (2.1-2.5).

### 1.10.3 IMPACTS OF MACKEREL ALTERNATIVES ON FISHERY-RELATED BUSINESSES AND COMMUNITITIES

The impacts of the Mackerel Alternatives (1, 2, and 2.1-2.5) on fishery-related businesses and communities are summarized below.

The direct economic impact of Mackerel Alternative 1 (No Action) is low positive because there is no industry-funded monitoring. However, if this alternative is chosen, there would be no additional monitoring above SBRM to reduce uncertainty around catch and bycatch estimates.

The direct economic impact of Mackerel Alternative 2 (Coverage Targets for IFM Program) is negative because the mackerel industry would be paying for additional monitoring coverage. The magnitude of the impact is primarily dependent upon the type and amount of monitoring coverage. Overall, a negative economic impact is associated with Mackerel Alternatives 2.1-2.5.

An indirect positive impact would result if increased monitoring decreases the uncertainty around catch estimates tracked against catch caps such that vessels would be more likely to be able to participate in the mackerel fishery without being constrained by catch caps. An indirect negative impact would result if increased monitoring shows higher than expected catch of river herring and shad such that vessels would be less likely to be able to harvest mackerel because they were constrained by the catch cap.

Direct impacts result from reductions in return to owner (RTO). RTO is calculated by subtracting fixed and operational costs from gross revenue and is used rather than net revenues (gross revenue minus only operational costs) to more accurately reflect income from fishing trips. Reductions in RTO are related to paying for monitoring coverage and possible reductions in fishing effort to match monitoring availability and would vary in magnitude by alternative. Indirect economic impacts on mackerel vessels result from increased monitoring and relate to whether or not vessels would be able to participate in the mackerel fishery.

The industry cost responsibility associated with NEFOP-level observer coverage is the most expensive ($818 per sea day) followed by ASM ($710 per sea day), and EM ($172-$325 per sea day) and portside sampling ($3.84-$5.12 per mt).

Table 6 describes the potential reduction to RTO associated with paying for monitoring coverage across mackerel coverage target alternatives. Shaded cells in the following table indicate when the potential reduction to RTO associated with paying for monitoring coverage exceeds 10%.

### TABLE 6. POTENTIAL REDUCTION TO RETURN-TO-OWNER FOR MACKEREL COVERAGE TARGET ALTERNATIVES

| Alternative | Gear Type | Paired Midwater Trawl | | Single Midwater Trawl and Small Mesh Bottom Trawl (Tier 1) | |
|---|---|---|---|---|---|
| | Median potential reduction to RTO from coverage | ≥20k lb | > 25 MT | ≥20k lb | > 25 MT |
| **2.1** | 100% NEFOP-level | 5.1% | 4.3% | 11.9% | 6.9% |
| **2.2 and 2.3** | 100% ASM | 4.4% | 3.7% | 10.3% | 6.0% |
| | 75% ASM | 3.3% | 2.8% | 7.9% | 6.0% |
| | 50% ASM | 2.3% | 2.0% | 5.2% | 5.3% |
| | 25% ASM | 1.4% | 1.4% | 3.1% | 3.1% |
| | | Paired Midwater Trawl | | Single Midwater Trawl | |
| **2.3 and 2.4** | 100% EM/PS Year 1 | 10.7% | 10.1% | 22.6% | 35.1% |
| | 100% EM/PS Year 2 | 3.8% | 3.7% | 8.3% | 16.4% |
| | 50% EM/PS Year 1 | 9.1% | 8.2% | 18.3% | 25.7% |
| | 50% EM/PS Year 2 | 1.8% | 1.6% | 3.8% | 7.0% |
| **2.5** | 100% EM/PS Year 1 | 10.6% | 10.0% | 22.5% | 34.8% |
| | 100% EM/PS Year 2 | 3.8% | 3.6% | 8.2% | 16.0% |
| | 75% EM/PS Year 1 | 9.1% | 8.3% | 18.4% | 27.3% |
| | 75% EM/PS Year 2 | 1.9% | 1.9% | 4.1% | 8.6% |
| | 50% EM/PS Year 1 | 8.7% | 7.7% | 16.9% | 24.3% |
| | 50% EM/PS Year 2 | 1.2% | 1.2% | 2.7% | 5.6% |
| | 25% EM/PS Year 1 | 8.3% | 7.1% | 15.6% | 21.5% |
| | 25% EM/PS Year 2 | 0.6% | 0.6% | 1.3% | 2.7% |

For EM/Portside Costs = Year 1 includes $15,000 for purchase and installation of EM equipment and Year 2 does not include the $15,000 purchase and installation costs.

### TABLE 7. SUMMARY OF OVERALL IMPACTS ASSOCIATED WITH MACKEREL COVERAGE TARGET ALTERNATIVES

| Alternatives | Mackerel Resource | Non-Target Species | Protected Species | Physical Environment | Fishery-Related Businesses and Communities |
|---|---|---|---|---|---|
| Mackerel Alternative 1: No Coverage Target Specified For IFM Programs (No Action) | Low Positive | Low Positive | Low Positive | Negligible | Low Positive |
| Mackerel Alternative 2: Coverage Target Specified For IFM Programs | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Mackerel Alternative 2.1: NEFOP-Level Coverage on Midwater Trawl Vessels and Tier 1-3 SMBT Vessels | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Mackerel Alternative 2.2: ASM Coverage on Midwater Trawl Vessels and Tier 1 SMBT Vessels | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Mackerel Alternative 2.3: Combination Coverage on Midwater Trawl Vessels and Tier 1 SMBT Vessels | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Mackerel Alternative 2.4: EM and Portside Sampling Midwater Trawl Vessels | Low Positive | Low Positive | Low Positive | Negligible | Negative |
| Mackerel Alternative 2.5: ASM Coverage on MWT Vessels, then Vessels may choose either ASM or EM/Portside Coverage | Low Positive | Low Positive | Low Positive | Negligible | Negative |

## 1.11 WHAT QUESTIONS SHOULD THE PUBLIC CONSIDER?

1. Do you support a standardized structure for new industry-funded monitoring programs? (See Omnibus Alternatives 1 and 2)

2. Which method do you support to allocate available Federal funding across industry-funded monitoring programs? (See Omnibus Alternatives 2.1-2.5)

3. Do you support a monitoring set-aside to help offset industry costs for industry-funded monitoring? (See Omnibus Alternative 2.6)

4. Do you support industry-funded monitoring in the Atlantic herring and/or Atlantic mackerel fisheries to increase monitoring above coverage requirements for Standardized Bycatch Reporting Methodology, the Endangered Species Act, and the Marine Mammal Protection Act? (See Herring Alternatives 1 and 2 and Mackerel Alternatives 1 and 2)

5. Which monitoring alternatives would best improve estimates of catch tracked against harvest limits and fishery catch caps in the Atlantic herring and Atlantic mackerel fisheries? (See Herring Alternatives 2.1-2.7 and Mackerel Alternatives 2.1-2.5)