



New England Fishery Management Council

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MEMORANDUM

DATE: March 27, 2019
TO: Groundfish Committee
FROM: Groundfish Plan Development Team
SUBJECT: **Updates to Draft Amendment 23/Groundfish Monitoring Alternatives**

The Groundfish Plan Development Team (PDT) met on March 19, 2019, in Gloucester, MA. The PDT 1) discussed the draft alternatives for Amendment 23 (A23)/Groundfish Monitoring, and 2) reviewed suggested revisions to the draft alternatives.

Overview

This memorandum summarizes updates to the draft A23 alternatives from the PDT, which incorporate guidance from the Groundfish Advisory Panel (GAP) and the Groundfish Committee (Committee). The revisions are summarized below by section in the draft alternatives document. Attachment #1 includes additional information as text from past actions to consider for designing the details of various monitoring options. The updated draft alternatives are provided as Attachment #2.

The PDT updated the draft alternatives from the most recent version (see Attachment #1 in the September 10, 2018 PDT memo)¹.

Updates to the Draft Amendment 23 Alternatives

Section 4.1.1.1 Sector Reporting Requirements

- The PDT does not anticipate further revisions in this section.

Section 4.1.1.2 Knowing the Total Monitoring Coverage Level at a Time Certain

- The PDT suggests the Committee consider selecting a date or range of dates for knowing the total coverage level. This could be based on when this information has been available in past years and on the needs of the fishery. This would be if the method used for determining total monitoring coverage levels is based on analyzing past years' data and is

¹ See https://s3.amazonaws.com/nefmc.org/5_180910-GF-PDT-memo-to-GF-CMTE-re-progress-on-A23-with-attachments.pdf

a variable rate. In addition, the desire to know the total monitoring coverage level at an earlier date will require a tradeoff with the use of less recent data in order to complete the analysis by an earlier deadline.

Section 4.1.1.3 Funding for the Groundfish Monitoring Program

- The PDT developed an alternative for NMFS-funded at-sea monitoring for higher levels of coverage, up to 100 percent, when NMFS has the funds to do so in a given year. The No Action for industry-funded at-sea monitoring at the selected minimum target coverage level would remain in place in years in which additional NMFS funds are not available.

Section 4.2 Commercial Fishery Measures

- The PDT organized the alternatives into two sections: 4.2.1 Groundfish Sector and Common Pool Monitoring Program Revisions, and 4.2.2 Groundfish Sector Monitoring Program Revisions, to reflect motions and discussion at Committee meetings.

Section 4.2.1.1 Dockside Monitoring Program

- The PDT worked from Committee and GAP discussions to develop an alternative for a dockside monitoring (DSM) program, including the goals and objectives of DSM and DSM program design.

Based on Committee and GAP guidance, the PDT identified the goal of the DSM program is to independently verify landings (weights and species) by providing an independent landings data stream that may be compared to dealer-reported landings in order to ensure accurate accounting for/estimation of landings for the entire groundfish fishery. The PDT requests the Committee revisit several questions related to DSM program design, including whether dockside monitors would independently weigh, or would independently verify landings, and whether sectors or dealers would be responsible for the costs of a DSM program.

- The PDT requests the Committee consider a sub-option to create a tiered level of DSM coverage for smaller vessels in remote ports.
- Additionally, the PDT moved the optional DSM program sub-option to a new section in the alternatives, which outlines standards for monitoring coverage levels and options for monitoring tools sectors could choose to fulfill monitoring standards.

Section 4.2.2.1 Monitoring Standards

- For monitoring standards, the PDT has been working under the assumption that NEFOP coverage would be combined with at-sea monitoring (ASM) coverage to fulfill minimum total coverage levels. The Committee should consider whether NEFOP would continue to be combined with ASM to achieve total monitoring coverage targets, or whether NEFOP coverage would be separate and not applied towards the total monitoring coverage rate for the groundfish sector monitoring program.
- The PDT addressed the Committee's request to develop alternative methodologies to using a CV standard to determine an annual coverage target. The PDT has discussed how

the CV standard addresses precision of discard estimates, while the PDT recognizes that improving the accuracy and precision of total catch may be better achieved through standards that address total catch estimation. For this reason, the PDT has developed as Option 3 an alternative with the goal of ensuring accurate total catch estimation, by increasing the percentage of total catch that is independently verified, whether through at-sea monitoring, dockside monitoring, or electronic monitoring. The PDT notes that other actions, including the Industry-Funded Monitoring (IFM) amendment, do not specify an accuracy standard, but do discuss how higher monitoring coverage levels could better address the Council's goals, increase the accuracy of catch estimates, and reduce the potential for bias in monitoring.

Section 4.2.2.2 Sector Monitoring Tools

- The PDT restructured the alternatives to include a section on monitoring standards (section 4.2.2.1) for coverage levels, and a section on options for sector monitoring tools to address the standards. These options, for tools that sectors could choose to fulfill monitoring standards, include at-sea monitoring (both human monitors and an audit model electronic monitoring), dockside monitoring for landings, and maximized retention.

The PDT requests the Committee consider whether the choice in monitoring tools should be made by individual vessel or by sector.

- For electronic monitoring (EM) options (audit model and maximized retention), the PDT requests the Committee consider if vessels/sectors that opt into EM should be required to do so for the entire fishing year, or if vessels/sectors would be able to switch out of or into EM within the fishing year.
- The PDT requests clarification on whether EM options would require the use of electronic reporting.

Additional Considerations for Development of the Draft Amendment 23 Alternatives

The PDT discussed several other ideas for developing the draft alternatives for the Committee to consider. At present, these ideas are not within the draft alternatives.

Broad Stock Area Reporting

The PDT discussed ideas for alternatives to address broad stock area reporting issues to ensure accurate apportionment of catch to stock area.

The PDT discussed several options to consider for addressing broad stock area reporting, including:

- Increased VMS polling;
- Electronic reporting on a haul by haul basis; and
- Single broad stock area fishing in exchange for a lower monitoring rate.

Incentives for Increased Monitoring

The PDT discussed ideas for incentivizing vessels or sectors to take higher levels of monitoring coverage, including:

- Closed area access, with a requirement to use conservation gear (e.g. haddock separator) and excluding closed areas with certain specific purposes (e.g. habitat closed areas);
- Removing the prohibition on discarding legal-sized fish;
- Changing mesh and landing size requirements; and
- Vessel-specific D:K ratios.

The PDT also discussed the idea of exploring whether there could be additional quota taken out of the management uncertainty buffers, and perhaps the scientific uncertainty buffers, in exchange for higher monitoring coverage. The PDT acknowledged that this approach may be more suited over the long term.

The PDT suggested a review of the list of disapproved sector exemptions to explore what ideas for incentives for increased monitoring that industry may have interest in would be viable. Additionally, the PDT discussed the concept of putting together a list of potential incentives that could be considered in later framework adjustments, as part of a review process of additional incentives.

The PDT requests the Committee consider whether incentives would apply at a vessel or sector level.

Phased Implementation of Changes to the Groundfish Monitoring Program

Amendment 16 rationale for the monitoring program states that:

“This implementation is phased in so that sectors have time to develop these systems, locate qualified vendors, and have their programs approved by NMFS.”

The PDT notes that this rationale could be considered for how changes to the groundfish monitoring program in A23 would be implemented.

Next Steps

The PDT will incorporate additional revisions into the draft A23 alternatives, following feedback from the Committee, to the extent possible and in time for the Council mailing deadline, which is April 5th.

Additional Information to Consider for Groundfish Monitoring Alternatives**Examples of text in past actions for details to include for monitoring program design**1. Maximized/Full Retention:

FW 48 (pp.57-58):

Alternatives Under Consideration

4.2.3.3 Option 3: Full Retention

If this action is adopted all allocated, currently regulated groundfish of all sizes, including cod, haddock, white hake, pollock, Acadian redfish, yellowtail flounder, Georges Bank and Gulf of Maine winter flounder, witch flounder, and American plaice, must be retained by sector vessels, i.e. no discarding of non-prohibited fish. Discarding of non-allocated groundfish species, including those that require no-retention as part of a rebuilding program would continue. Allocated regulated groundfish that are physically damaged, e.g. by predation, must be retained. This action would not alter regulated mesh areas or restrictions on gear and methods of fishing. This measure would not change possession requirements for other species that are regulated by other Fishery Management Plans.

It should be noted that this change would be made to reduce regulatory discards, not to facilitate targeting of smaller fish. As a result, while sectors would not be prohibited from requesting exemptions from minimum mesh requirements, the expectation is that before such a request would be approved a sector would have to explain why such an exemption would not lead to increased targeting of juvenile groundfish. For example, an exemption request to allow use of square mesh less than 6.5 inches to target GB haddock, or smaller mesh to target redfish, might be approved under certain circumstances because these meshes might not increase catches of small fish. But a request to use a smaller diamond mesh to target haddock might not be approved because, depending on mesh size, it might be expected to increase catches of sub-legal fish.

Rationale: Full retention may help reduce monitoring costs by facilitating the adoption of electronic monitoring, as there would be less of a need to estimate the weight of groundfish discards. The amount of data collected by at-sea monitors required for total discard estimation and composition would also be reduced. Discarding is considered to be a wasteful practice. A portion of discarded fish is thrown back dead resulting in economic loss to fishermen and the needless loss of fish to the population.

FW 51 (pp.50-51):

Alternatives Considered and Rejected

5.1.1.2 Option 2: Full Retention

If this action is adopted all allocated, currently regulated groundfish of all sizes, including cod, haddock, white hake, pollock, Acadian redfish, yellowtail flounder, Georges Bank and Gulf of Maine winter flounder, witch flounder, and American plaice, must be retained by sector vessels, i.e. no discarding of non-prohibited fish. Discarding of non-allocated groundfish species, including those that require no-retention as part of a rebuilding program would continue. Allocated regulated groundfish that are

physically damaged, e.g. by predation, must be retained. This action would not alter regulated mesh areas or restrictions on gear and methods of fishing. This measure would not change possession requirements for other species that are regulated by other Fishery Management Plans.

This option would facilitate a reduction in the dependence on the assumed discard rate applied to sector vessels before a calculated discard rate is available. To ensure this option would convert discards to landings, catch accountability should be maximized. This could include one hundred percent dockside monitoring and one hundred percent at-sea monitoring in the form of at-sea monitors and/or electronic monitoring, if electronic monitoring is deemed sufficient.

It should be noted that this change would be made to reduce regulatory discards, not to facilitate targeting of smaller fish. As a result, while sectors would not be prohibited from requesting exemptions from minimum mesh requirements, the expectation is that before such a request would be approved a sector would have to explain why such an exemption would not lead to increased targeting of juvenile groundfish.

Sub-Option A: If this sub-option is adopted it would establish full retention as outlined above on a subset of fishing vessels based on gear type. This program would require one hundred percent dockside monitoring and one hundred percent at-sea monitoring in the form of electronic monitoring and/or at-sea monitors.

Rationale: Electronic monitoring is considered an economical tool to monitor fishing activities but requires testing before broad scale application across gear types. This program would help to evaluate electronic monitoring as a primary tool for observing on a smaller portion of the fleet.

2. Electronic Monitoring:

Industry-Funded Monitoring Amendment draft EA
Herring Monitoring Alternative 2.3 (pp.88-91):

Electronic Monitoring

Equipment

The EM system, installed by a NMFS-approved contractor, would be comprised of video camera(s), recording equipment, and other related equipment with the following components and capabilities:

- Video cameras. Video cameras would need to be mounted so to provide clear, unobstructed, and well illuminated views of the area(s) where the midwater trawl gear is retrieved prior to being placed in the hold. There would need to be a sufficient number of cameras with sufficient resolution for NMFS, the US Coast Guard, and other authorized officers/designees to determine that all catch was brought aboard the vessel during haulback. The EM system must be capable of initiating video recording at the time gear retrieval starts, and record all periods of time when the gear is being retrieved and until catch is placed in the hold or discarded.
- Global Positioning System (GPS) receiver. A GPS receiver would be required to document coordinates, velocity, and heading data.

- Hydraulic and drum rotation sensors. Hydraulic sensors would be required to continuously monitor the hydraulic pressure. Drum rotation sensor would be required to continuously monitor drum rotations.
- EM control box. The system would need to include a control box that receives and stores the raw data provided by the sensors and cameras. The control box would need to contain removable hard drives and sufficient storage system capability to record data for the full duration of a trip (i.e., the longest expected trip length for the vessel).
- EM systems monitor. A wheelhouse monitor would be necessary to provide a graphical user interface for the vessel operator to monitor: 1) The state and performance of the control box, 2) information on the current date and time synchronized via GPS, 3) GPS coordinates, 4) current hydraulic pressure reading, 5) presence of a data disk, 6) percentage used of the data disk, and 7) video recording status.

NMFS would announce specifics about this equipment list, as well as any additional design requirements for the EM system, during the rulemaking and implementation process. Industry will be responsible for contracting with a NMFS-approved provider for technical and maintenance services.

Data Transfer

After completing a fishing trip, a vessel representative would be required to mail or transmit the removable EM system hard drive(s) containing all data to NMFS or a NMFS-approved contractor, according to instructions provided by NMFS. The method of transfer that would be allowed under the EM program will be developed during implementation and included in individual vessel monitoring plans, as described below. Prior to departing on a subsequent trip, a vessel representative would be required to install a replacement EM system hard drive(s) to enable data collection and video recording. A vessel representative would be responsible for contacting NMFS or a NMFS-approved contractor if they have requested but not received a replacement hard drive(s) and for informing NMFS or NMFS-approved contractor of any lapse in the hard drive management procedures described in the vessel monitoring plan.

Review of EM Video Footage

Video footage would be sampled at a predetermined percent of review (50% or 100%) and then could be compared to released catch affidavits, VMS reports describing discard events, and/or observer data on slippage. The sampling of video footage would evaluate whether or not catch was discarded. To use the optimum and most cost-effective rate to achieve the goal for this action, the rate of review may be adjusted by the Council via a future framework or specification action, if appropriate.

Compliance Measures

In the future, the Council may consider modifications to the rates of video footage recording and/or sampling rates to ensure compliance with slippage measures. For example, if a vessel is found to have undocumented discarding events on more than a specified number of trips during a fishing year, then the Council may adjust the rates of video footage recording and/or sampling.

Vessel Monitoring Plans

Individual Vessel Monitoring Plans (VMPs) would serve as a comprehensive plan for discard documentation, installation and maintenance, protocols for data storage and transfer, and other important

information regarding a vessel's specific EM system. Each vessel operator or owner would be responsible for working with NMFS or a NMFS-approved contractor to develop a VMP, and would be required to keep the VMP aboard the vessel at all times. NMFS would specify VMP requirements in the regulations. VMPs may include, but are not limited to, information on the locations of EM system components, contact information for technical support, instructions on how to conduct a pre-trip system test, instructions on how to verify proper system functions, location(s) on deck where fish retrieval should occur to remain in view of the cameras, procedures for how to manage EM system hard drives, catch handling procedures, periodic checks of the monitor during the retrieval of gear to verify proper functioning, and reporting procedures. The VMP should minimize, as much as possible, any impact on the current operating procedures of the vessel, and should help ensure the safety of the crew. NMFS or a NMFS-approved contractor would review VMPs biennially prior to the start of the upcoming fishing year.

4.0 DRAFT ALTERNATIVES UNDER CONSIDERATION

4.1 Fishery Program Administration

4.1.1 Sector Administration Provisions

The management measures proposed in this section relate to sector administration policies established in Amendment 13 and Amendment 16.

The alternatives for modifying the current sector administration provisions are described below. The following alternatives will consider changes to the administration of the groundfish sector program designed to improve the operation of the system. The goal is to reduce reporting redundancies, reduce the burden on sector managers for reporting data, increase flexibility for sector participants with business planning, and improve the quality and timeliness of data processing. Additionally, there are alternatives to establish additional funding source options for the groundfish at-sea monitoring program.

4.1.1.1 Sector Reporting Requirements

4.1.1.1.1 Option 1: No Action

Sectors are required to report all landings and discards by sector vessels to NMFS on a weekly basis. Additionally, there is a requirement that sectors submit annual year-end reports (Amendment 13 and Amendment 16). Current regulations require that approved sectors must submit an annual year-end report to NMFS and the Council, within 60 days of the end of the fishing year that summarizes the fishing activities of its members, including harvest levels of all species by sector vessels (landings and discards by gear type), enforcement actions, and other relevant information required to evaluate the performance of the sector. More information on sector reporting requirements and the NMFS year-end report guidance can be found in Background Information on the Groundfish Monitoring Program (to be incorporated in the DEIS either in the Affected Environment or as an appendix).

Option 1/No Action would continue to require sectors to report all landings and discards to NMFS on a weekly or daily basis, and would continue to require that sectors submit annual year-end reports to NMFS and the Council.

4.1.1.1.2 Option 2: Streamline Sector Reporting Requirements

This measure would grant the Regional Administrator authority to revise the sector monitoring and reporting requirements currently prescribed in the regulations [648.87(b)(1)(v) and (vi)] to streamline the sector reporting process. For example, this could include eliminating the requirement for sectors to submit weekly and daily reports in lieu of the agency providing monitoring summaries for the sectors to use while continuing reconciliation to confirm accuracy.

In Amendment 16, the Council required sectors to report all landings and discards by sector vessels to NMFS on a weekly basis. At the time this was developed, the expectation was that sectors would use real-time information from their vessels to monitor catch. In practice, NMFS provides sector managers with a weekly download of official trip data (dealer and VTR landings data, observer discard data, and calculated discard rates for unobserved trips), and most sectors then use the weekly downloads to update their sector accounting and then submit a weekly report to NMFS. Other sectors use data collected

directly from vessels in their reports. Data reconciliation occurs regularly between the sectors and NMFS to improve monitoring accuracy.

A more efficient process might be developed that would still involve timely monitoring and reconciliation of data sources between sectors and NMFS. If deemed sufficient by the Regional Administrator, an alternative to the process currently prescribed in the regulations may satisfy the need to:

- Summarize trips validated by dealer reports;
- Oversee the use of electronic monitoring equipment and review of associated data;
- Maintain a database of VTR, dealer, observer, and electronic monitoring reports;
- Determine all species landings by stock areas;
- Apply discard estimates to landings;
- Deduct catch from ACEs allocated to sectors; and
- Determine sector catch and ACE balances.

Additional changes to streamline sector reporting could include such items as¹:

- Using NMFS reconciled data to determine when the trigger for sector daily catch reporting has been reached (required when 90 percent of any ACE has been caught), rather than using sector self-reported data. As described above, sector data is not any timelier and the reconciled data is more accurate, so using NMFS reconciled data would be more efficient and reliable than relying solely on sector reports.
- Modifying trip end hauls to accommodate catch reporting and to eliminate redundancy.

Rationale: Streamlining the sector reporting process would reduce reporting redundancies, provide flexibility to sectors and sector managers, and improve timeliness of data processing.

4.1.1.2 Knowing the Total Monitoring Coverage Level at a Time Certain

4.1.1.2.1 Option 1: No Action

The timeline for when total monitoring coverage level information is available has varied throughout the years of the groundfish monitoring program (Table 1). Currently, NMFS publishes the total monitoring coverage level once the necessary analysis is completed. Typically, analysis to determine the at-sea monitoring (ASM) coverage level is available sooner than the Standardized Bycatch Reporting Methodology (SBRM) analysis used to determine the Northeast Fisheries Observer Program (NEFOP) coverage level.

Current regulations set December 1 as the deadline for sectors to submit preliminary rosters, but give NMFS flexibility to set other dates. For example, in FY 2013, managers asked for a later date, and they agreed on March 29, 2013. Beginning in FY 2014, NMFS established a standard deadline of four weeks after potential sector contribution (PSC) letters are sent out, although in several years, there have been agreed-upon extensions.

¹ These items were initially included in a letter from NMFS to the Council: "Bullard to NEFMC re sector reporting streamlining", dated August 14, 2013.

Table 1 - Target and realized observer (NEFOP and ASM) coverage levels for the groundfish fishery and dates when analyses to determine coverage rates available for Fishing Years 2010-2018 (GARFO 2017). “n/a” indicates that the information is not available.

| Fishing Year | NEFOP target coverage level | ASM target coverage level | Total target coverage level | Realized coverage level | Date analysis posted by GARFO to determine total coverage rate | Date total coverage rate announced | Date sector rosters were due |
|--------------|-----------------------------|---------------------------|-----------------------------|-------------------------|--|------------------------------------|------------------------------|
| FY 2010 | 8 % | 30 % | 38 % | 32 % | | | |
| FY 2011 | 8 % | 30 % | 38 % | 27 % | | | 12/1/2010 |
| FY 2012 | 8 % | 17 % | 25 % | 22 % | | | 12/1/2011 |
| FY 2013 | 8 % | 14 % | 22 % | 20 % | 4/12/2013 | 3/14/2013 | 3/29/2013 |
| FY 2014 | 8 % | 18 % | 26 % | 25.7% | 2/21/2014 | 2/18/2014 | 3/6/2014 |
| FY 2015 | 4 % | 20 % | 24 % | 19.8% | 3/2/2015 | 2/26/2015 | 2/25/2015 |
| FY 2016 | 4 % | 10 % | 14 % | 11.1% | 5/6/2016 | 3/22/2016 | 3/15/2016 |
| FY 2017 | 4 % | 12 % | 16 % | n/a | 3/15/2017 | 3/15/2017 | 3/16/2017 |
| FY 2018 | 5% | 10% | 15 % | n/a* | 1/25/2018 | 1/25/2018 | 3/26/2018 |
| FY 2019 | | | | | | | |

*Realized coverage not available; fishing year still underway.

Source: Summary of analyses conducted to determine at-sea monitoring requirements for multispecies sectors, FY2018, GARFO; and personal communication with GARFO staff

Option 1/No Action would continue the current process of making the total monitoring coverage level available once the necessary analysis is completed.

4.1.1.2.2 Option 2: Administrative Measure for Knowing Total Monitoring Coverage Level at a Time Certain

This measure identifies knowing the target monitoring coverage level at a specific date in advance of the start of the fishing year to facilitate business planning by permit holders and sectors. Groundfish fishery participants need this information in advance of the fishing year in order to decide whether to participate in sectors for the upcoming year and to finalize their business planning. Knowing the target monitoring coverage levels for the upcoming fishing year is also important information for fishery participants to have as they negotiate with at-sea monitoring providers. The feasibility of setting a fixed date is related to the method used for setting coverage rates and the desired timeliness of the underlying data used in the analysis.

Certain alternatives for determining target monitoring coverage levels may not require extensive analysis to determine target coverage levels for the upcoming fishing year. For example, alternatives for fixed target coverage levels would provide sectors a clear understanding of the target monitoring coverage level for upcoming years. However, alternatives that base the coverage rate on an analysis of past years’ data must trade off timeliness of the data available in time to complete the analysis by the deadline. A desire to know the total monitoring coverage level at an earlier date will require the use of less recent data in order to complete the analysis by an earlier deadline.

Rationale: Knowing the target monitoring coverage level at a specific date in advance of the start of the fishing year would provide flexibility to groundfish fishery participants by making the necessary information available for participants to decide whether to participate in sectors for the upcoming year, to finalize their business planning, and to negotiate with at-sea monitoring providers.

4.1.1.3 Funding for the Groundfish Monitoring Program

4.1.1.3.1 Option 1: No Action

Beginning in 2012, Amendment 16 required that the at-sea monitoring program would be industry funded. However, since then NMFS has had sufficient funding to be able to pay for all or some of the sampling costs of the groundfish at-sea monitoring program. From FY 2012 through FY 2014, NMFS fully covered the sampling costs of the at-sea monitoring program. In FY 2015, NMFS fully covered sampling costs for the at-sea monitoring program until funds were expended in March 2016, at which point industry became responsible for the cost of at-sea monitoring. From July 2016 through April 2018, NMFS partially reimbursed sector participants for at-sea monitoring costs through a grant with the Atlantic States Marine Fisheries Commission.

Since May 1, 2018, NMFS is reimbursing industry for 100 percent of its at-sea monitoring costs for fishing year 2018, and has set aside additional funds for industry reimbursement for future years. It is anticipated that once these appropriated funds are used, sampling costs of at-sea monitoring would be fully paid for by industry, unless additional NMFS funds are available.

Option 1/No Action would continue to require industry to fund at-sea monitoring costs.

4.1.1.3.2 Option 2: NMFS-Funded At-Sea Monitoring Option

This alternative, if chosen, would allow for NMFS-funded at-sea monitoring at higher coverage levels than the minimum target coverage required, up to 100 percent, provided that NMFS has the funding to do so in a given year. The No Action for industry-funded at-sea monitoring costs at the selected minimum target coverage level would remain in place in years in which additional NMFS funds are not available.

Rationale: Monitoring coverage at 100 percent, or as close to 100 percent, increases the accuracy of catch estimates and reduces the potential for bias. Higher coverage levels require a substantial increase in costs, and given that industry is responsible for monitoring costs, pursuing funding from NMFS for monitoring will facilitate a transition to higher monitoring coverage levels.

4.2 Commercial Fishery Measures

4.2.1 Groundfish Sector and Common Pool Monitoring Program Revisions

4.2.1.1 Dockside Monitoring Program

4.2.1.1.1 Option 1: No Action

There is currently no requirement for dockside monitoring for the groundfish monitoring program. Amendment 16 established a dockside monitoring program in the groundfish fishery, in order to verify landings of a vessel at the time it is weighed by a dealer and to certify the landing weights are accurate as reported on the dealer report. The dockside monitoring requirement was later eliminated (FW 48). More information on the previous dockside monitoring program can be found in the Groundfish Plan Development Team Dockside Monitoring Discussion Paper (to be included as an appendix in the DEIS).

Option 1/No Action would continue to maintain no requirement for dockside monitoring for the groundfish fishery.

4.2.1.1.2 Option 2: Dockside Monitoring Program

The following measures will consider changes to how landings are monitored in the groundfish fishery. The goal is to improve the reliability and accountability of landings.

The following measures would create a dockside monitoring (DSM) program for the groundfish fishery that would focus on monitoring landings by either independently weighing landings or independently verifying that landed catch is weighed and accurately reported by dealers. The goal of the DSM program system is verify landings (species and weights) by providing an independent landings data stream that may be compared to dealer-reported landings in order to ensure accurate accounting for/estimation of landings.

This alternative would develop a mandatory dockside monitoring program for the commercial groundfish fishery (sectors and common pool), at either 50 percent or 100 percent coverage of all trips. The Council would choose one of these coverage levels.

Rationale: The goal is to establish a dockside monitoring program that allows for independent verification of landings for the entire groundfish fishery, which will ensure accurate reporting by dealers, ensure species are reported correctly, and provide a fair and equitable system for all fishery participants.

4.2.2 Groundfish Sector Monitoring Program Revisions

Sectors are responsible for developing and implementing a monitoring program, described in their operations plans, that satisfies NMFS and Council requirements for monitoring sector catch and discards (Amendment 13, Amendment 16, FW 45, FW 48, and FW 55).

The primary goal of the groundfish sector at-sea monitoring program is to verify area fished, catch, and discards by species, by gear type; and meeting these primary goals should be done in the most cost effective means practicable (FW 55). All other goals and objectives of groundfish monitoring programs at §648.11(l) are considered equally-weighted secondary goals.

The goals and objectives of the groundfish monitoring program, are as follows:

Goal 1: Improve documentation of catch

Objectives:

Determine total catch and effort, for each sector and common pool, of target or regulated species.
Achieve coverage level sufficient to minimize effects of potential monitoring bias to the extent possible while maintaining as much flexibility as possible to enhance fleet viability.

Goal 2: Reduce cost of monitoring

Objectives:

Streamline data management and eliminate redundancy.
Explore options for cost-sharing and deferment of cost to industry.
Recognize opportunity costs of insufficient monitoring.

Goal 3: Incentivize reducing discards

Objectives:

Determine discard rate by smallest possible strata while maintaining cost-effectiveness.
Collect information by gear type to accurately calculate discard rates.

Goal 4: Provide additional data streams for stock assessments

Objectives:

Reduce management and/or biological uncertainty.
Perform biological sampling if it may be used to enhance accuracy of mortality or recruitment calculations.

Goal 5: Enhance safety of monitoring program

Goal 6: Perform periodic review of monitoring program for effectiveness

The following sections describe options to adjust landing and discard monitoring for sector vessels. These options may replace existing monitoring and reporting requirements, or may be implemented in addition to existing programs to improve data collection (e.g., improved discard monitoring systems, dockside monitors for landings, etc.). The range of alternatives considered by the Council includes the current system (No Action) as well as the options proposed below.

4.2.2.1 Sector Monitoring Standards

4.2.2.1.1 Option 1: No Action

Amendment 16 specified a coverage level standard for sectors and required industry-funded ASM beginning in 2012. This requirement focused on the coefficient of variation (CV) of discard estimates, a measure of the precision of discard estimates, but also noted that other factors could be considered when determining coverage levels:

“For observer or at-sea monitor coverage, minimum coverage levels must meet the coefficient of variation in the Standardized Bycatch Reporting Methodology. The required levels of coverage will be set by NMFS based on information provided by the Northeast Fisheries Science Center (NEFSC) and may consider factors other than the SBRM CV standard when determining appropriate levels. Any electronic monitoring equipment or systems used to provide at-sea monitoring will be subject to the approval of NMFS through review and approval of the sector operations plan. Less than 100% electronic monitoring and at-sea observation will be required. In the event that a NMFS-sponsored observer and a third-party at-sea monitor are assigned to the same trip, only the NMFS observer must observe that trip.

Assumed discard rates will be applied to sectors unless an at-sea monitoring system (such as a sector’s independent monitoring program, a federal monitoring program, or other program that NMFS determines is adequate) provides accurate information for use of actual discard rates.”

Currently, a system for fishery performance criteria is used in setting groundfish sector coverage levels (FW 55). Application of the CV standard is filtered consistent with existing goals for the monitoring program, such that stocks that meet the performance criteria are not drivers for the annual coverage level. More information on the fishery performance criteria can be found in Background Information on the Groundfish Monitoring Program (to be incorporated in the DEIS either in the Affected Environment or as an appendix).

If Option 1/No Action is adopted, groundfish monitoring coverage level requirements would remain as defined in Amendment 16 and subsequent framework actions (FW 48 and FW 55). Currently, the target at-sea monitoring/electronic monitoring coverage level must meet the CV precision standard specified in the Standardized Bycatch Reporting Methodology (currently a 30 percent CV) for discard estimates at the stock level for all sectors and gears combined. Additionally, sector coverage levels are based on the most recent 3-year average of the total required coverage level (based on realized stock level CVs) necessary to reach the required CV for each stock, and are set using fishery performance criteria so that stocks that meet the performance criteria (not overfished, with overfishing not occurring according to the most recent available stock assessment, and that in the previous fishing year have less than 75 percent of the sector sub-ACL harvested, and less than 10 percent of catch comprised of discards) are not drivers for the annual coverage level. The minimum coverage level based on a CV standard is only appropriate for sector monitoring purposes if there is no evidence that behavior on observed and unobserved trips is different. If there is evidence that behavior is different, then a higher coverage level may be required to ensure the accuracy of discard estimates and to minimize the potential for bias in fisheries dependent information.

4.2.2.1.2 Option 2: Fixed Total At-Sea Monitoring Coverage Level Based on a Percentage of Trips

Adequate coverage (combined NEFOP, ASM and EM) is required to generate accurate discard estimates with a known level of precision. All of the options below – including requirements for coverage adequate

for the accuracy and precision of estimates - would be interpreted and applied consistent with the overarching goals and objectives of the sector monitoring program.

Currently, the target at-sea monitoring/electronic monitoring coverage level must at least meet the coefficient of variation (CV) specified in the Standardized Bycatch Reporting Methodology (currently a 30-percent CV) for discard estimates at the stock level for all sectors combined (see Section 4.2.2.1.1).

Four levels of at-sea monitoring coverage are analyzed which, if chosen, would replace the current CV standard. The Council would select one of these coverage levels.

- A range of fixed target coverage levels – an annual target coverage level of 25 percent, 50 percent, 75 percent, or 100 percent - of all sector trips.

See section 4.2.2.2.1 (At-Sea Monitoring Options) for monitoring tools that would address this standard.

Rationale: The goal is to achieve a monitoring coverage level that ensures precise and accurate catch (landings and discards) estimation and minimizes the potential for biases in the estimates.

4.2.2.1.3 Option 3: Fixed Coverage Level Based on a Percentage of Catch

This option would consider an alternative methodology to using a precision standard for determining target coverage levels. The current CV standard for determining the annual coverage level target focuses on precision of discard estimates. The options below would instead focus on ensuring accurate and precise estimation of total catch (landings and discards) through higher levels of independent verification.

Two levels of coverage of total catch to be independent verified – 50 percent and 100 percent - are analyzed which, if chosen, would replace the current CV standard. The Council would select one of these coverage levels.

Independent verification of catch can be achieved through a combination of monitoring tools, including at-sea monitoring, dockside monitoring, or electronic monitoring.

See sections 4.2.2.2.1 (At-Sea Monitoring Options), 4.2.2.2.2 (Dockside Monitoring Option), and 4.2.2.2.3 (Maximized Retention Option) for monitoring tools that would address this standard.

Rationale: The goal is to achieve a monitoring coverage level that ensures precise and accurate catch (landings and discards) estimation and minimizes the potential for biases in the estimates. Specifically, the goal of this alternative is to ensure an accurate estimate of total catch, by requiring a greater percentage of total catch to be independently verified.

4.2.2.2 Sector Monitoring Tools

Sectors would have the option to select one or more of the following options for monitoring tools to address monitoring standards.

4.2.2.2.1 At-Sea Monitoring Options

The options below are monitoring tools that sectors could choose to fulfill monitoring standards. These

options address monitoring at-sea and focus on discard estimation.

Sub-Option A – Human At-Sea Monitors

Sectors have the option to choose human at-sea monitors to monitor catch, primarily with a focus on discard estimation.

Sub-Option B – Audit Model Electronic Monitoring

Amendment 16 specified that electronic monitoring (EM) may be used in place of actual observers or at-sea monitors if the technology is deemed sufficient by NMFS for a specific trip based on gear type and area fished.

This option would approve the use of the audit model electronic monitoring in place of at-sea monitors, in which EM runs on 100 percent of trips and a subset of hauls or trips is reviewed to verify vessel trip report (VTR)-reported discards. The video review rate would meet the selected monitoring coverage standard, and could be reduced in the future through evaluations of the data by NMFS staff.

Rationale: The goal is to provide sectors with tools to monitor catch that ensure precise and accurate catch (landings and discards) estimation and minimize the potential for biases in the estimates.

4.2.2.2.2 Dockside Monitoring Option

This alternative would develop a dockside monitoring program as an option for sectors to use as part of their sector monitoring plans to monitor landings. Sectors would develop and implement an independent third-party dockside monitoring system that is satisfactory to NMFS for monitoring landings.

Rationale: The goal is to provide sectors with a tool to monitor landings that ensures precise and accurate catch (landings and discards) estimation.

4.2.2.2.3 Maximized Retention Option

This alternative would develop an option for a maximized retention model for sectors to use, in which EM runs on 100 percent of trips and verifies that all groundfish are landed, paired with dockside monitoring to sample catch. For this approach, vessels would be required to land all groundfish of all sizes, i.e. no discarding of non-prohibited fish, and so this would eliminate the need to monitor discards.

To ensure this option would convert discards to landings, catch accountability should be maximized. This would include 100 percent dockside monitoring and 100 percent electronic monitoring of all trips.

Rationale: The goal is to provide sectors with a tool to monitor catch that ensures precise and accurate catch (landings and discards) estimation while simultaneously reducing regulatory discards.

5.0 DRAFT ALTERNATIVES CONSIDERED AND REJECTED

5.1 Fishery Program Administration

5.1.1 Sector Administration Provisions

5.1.1.1 Funding for the Groundfish At-Sea Monitoring Program

5.1.1.1.1 Option 2: Additional Options for Industry-Funded Costs of Monitoring

Under Amendment 16, sectors must develop and fund their own monitoring programs. Sectors are still expected to bear the costs of the monitoring program changes adopted in Amendment 23.²

Funding source ideas

The costs of additional monitoring can be considerable. This action will consider regulatory changes that will help offset the cost of monitoring for sectors. Ideas to offset monitoring costs include:

- Quota auctions and quota set-asides, where a portion of the ACL for key stocks could be auctioned off annually to fund monitoring. This is done in some Fishery Management Plans (FMPs), where a portion of the quota is reserved as a set-aside and auctioned off annually to provide additional catch opportunity and a source of funding for management priorities like research. Section 208 of the Magnuson-Stevens Act (MSA) established a Fisheries Conservation and Management Fund, which may be funded through quota set-asides, appropriations, states or other public sources, and private or nonprofit organizations. This fund may be used to expand the use of electronic monitoring.

This measure will establish the necessary infrastructure for a quota auction.³

Rationale: Quota auctions may offset the cost of monitoring for sectors. This measure would consider regulatory changes to establish a quota auction.

Rationale for not including 5.1.1.1.1: After reviewing the work to date, the Groundfish Committee had concerns that an option to set up a quota auction or quota set-aside would further reduce available quota at a time while the groundfish fishery continues to operate under historically low annual catch limits. Therefore, the Committee did not recommend this action for further development.

² The Council recently adopted the IFM Amendment. The IFM Amendment discusses that the existing groundfish monitoring program is excluded from the newly adopted IFM approach. The PDT is aware that there are provisions in the IFM Amendment that will need to be considered for determining how the adjusted groundfish monitoring program in Amendment 23 fits into the IFM approach, and plans to explore this concept further. At present, the PDT does not expect that the IFM approach would apply to the adjusted groundfish monitoring program.

³ The PDT is exploring potential limitations to setting up a quota auction for the groundfish sector program. One question is whether the Council can provide a quota auction system outside of Limited Access Privilege Programs (LAPPs). Additionally, even if it is determined the Council can establish a quota auction system for the groundfish sector program, the funds collected would go into the Limited Access System Administration Fund established by section 305(h)(5)(B) of the MSA and would be subject to annual appropriations.