Industry-Funded Monitoring Omnibus Amendment

Mackerel Coverage Target Alternatives

By Carly Bari
Mid-Atlantic Fishery Management Council
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Presentation Overview

- General Approach
- Omnibus Alternatives
- Mackerel Coverage Target Alternatives including Updates
- Updates to Biological Impacts
- Updates to Economic Impacts
- Update on Herring/Mackerel EM Project

Council Consideration

Throughout the presentation we will pause for the Council to consider specific issues including:

- Weighting approach
- Slippage consequence measures
- Coverage target calculation
- Preliminary preferred alternative

General Approach

- New IFM programs would specify fishery-specific coverage *targets*
- Tool to approve Council's desired levels of monitoring, without NMFS committing to supporting coverage levels before funding determined to be available.
- No IFM for mackerel fishery in years when there is no additional Federal funding to cover NMFS administration costs

Key results if adopted

This amendment would…

- Establish a standardized structure for new industry-funded programs
- Set coverage targets for herring & mackerel fisheries

This amendment would not…

- Set coverage targets for fisheries other than herring & mackerel
- Impact existing industry-funded monitoring programs, including groundfish & scallops

Two Types of Alternatives in this Amendment

- Omnibus Alternatives
  - Apply to all NEFMC and MAFMC FMPS
  - Both Councils selected preliminary preferred omnibus alternatives earlier this year
- Herring and Mackerel Coverage Target Alternatives
  - Specify IFM coverage targets for herring and mackerel fisheries

OMNIBUS ALTERNATIVES

Omnibus Alternatives

- Alternative 1: No Standardized Industry-Funded Monitoring Programs (No action)
- **Alternative 2: Standardized Industry-Funded Monitoring Programs**
  - Standardize cost responsibilities
  - Framework adjustment process for industry-funded monitoring programs
  - Standardized industry-funded monitoring service provider requirements
  - Prioritization process
  - Option for Monitoring Set-Aside

Omnibus Alternative 2: Prioritization Process

- Alternative 2.1 – NMFS-led
- **Alternative 2.2 – Council-led**
- Alternative 2.3 – Proportional
- Alternative 2.4 – Lowest Coverage Ratio-based
- Alternative 2.5 – Highest Coverage Ratio-based

Weighting approach needed for Alternatives 2.1 and 2.2

Council Consideration

- Currently two weighting approaches described
  - SSC developed prioritization (p 65)
  - Equal (p 72)
- Changes to the weighting approach would be done through a future rulemaking (similar to a specifications rulemaking)
- Would the Council like to identify a preliminary preferred weighting approach?

MACKEREL COVERAGE TARGET ALTERNATIVES

Goals of IFM Monitoring

Increased monitoring in the mackerel fishery should address the following goals:

- Accurate estimates of catch (retained and discarded),
- Accurate catch estimates for incidental species for which catch caps apply, and
- Affordable monitoring for the mackerel fishery

Gear Type	MWT All Tiers	SMBT Tier 1	SMBT Tier 2	SMBT Tier 3
Alt 1: No Coverage Target for IFM Programs (No Action)	SBRM	SBRM	SBRM	SBRM
Alt 2: Coverage Targets Specified for IFM Programs	Includes Sub-Options: 1) Waiver Allowed, 2) Wing Vessel Exemption, 3) 2 Yr Sunset, 4) 2 Yr Re-Evaluation, and 5) 25 mt threshold			
Alt 2.1: NEFOP-Level Coverage	100% NEFOP	100% NEFOP	50% NEFOP	25% NEFOP
Alt 2.2: ASM Coverage	25% - 100% ASM	25% - 100% ASM	SBRM (No Action)	SBRM (No Action)
Alt 2.3: Combination Coverage	50, 100% EM/Portside	25% - 100% ASM	SBRM (No Action)	SBRM (No Action)
Alt 2.4: EM and Portside Coverage on Midwater Trawl Fleet	50, 100% EM/Portside	SBRM (No Action)	SBRM (No Action)	SBRM (No Action)
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.				

Mackerel Alternative 2 Sub-Options

- Sub- Option 1: Waiver allowed if IFM coverage is not available
- Sub-Option 2: Wing vessel exempt from IFM requirements
- Sub-Option 3: IFM requirements sunset in two years
- Sub-Option 4: IFM requirements are re-evaluated in two years
- Sub-Option 5: IFM requirements only apply on trips that land more than 25 mt of mackerel

UPDATES TO MACKEREL COVERAGE TARGET ALTERNATIVES

Under Mackerel Alternative 2, At-Sea Monitors Would Collect

- **Data on retained and discarded catch (species, weight, composition);**
- 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);
- **Length data from retained and discarded catch;** and
- Vessel trip costs (operational costs for trip including food, fuel, oil, and ice).

Summary of Monitoring Types

- NEFOP-observers and at-sea monitors would both collect composition data on retained/discarded catch, as well as fishing gear, effort, and vessel cost information
- Portside samplers would collect composition data on retained catch
- NEFOP-level observers would collect whole specimens, photos, and biological samples from catch, as well as interactions with protected species
- NEFOP-level observers and portside samplers would collect age and length data
- At-sea monitors would collect length data
- Both NEFOP-level observers and at-sea monitor would be required to hold a high volume fisheries (HVF) certification

Council Consideration

- Does the Council agree with the ASM sampling design as described?

NEFMC Motion: That the Council refine the sampling protocol for at-sea monitors: (1) ASMs should collect information on retained catch (kept and incidental) and discarded catch; (2) ASMs should not collect biological samples (scales, otoliths, samples from marine mammals, sea birds, and sea turtles); (3) ASMs should collect length information; and (4) ASMs should be trained in the high-volume fishery.

Calculating Coverage Targets

- NEFOP-level observer and at-sea monitoring coverage targets would be calculated by combining estimated SBRM coverage from previous year and IFM monitoring
  - 15% SBRM coverage + 10% IFM coverage = 25% coverage target
  - A vessel would not carry an SBRM observer and IFM at-sea monitor on the same trip
  - A combined coverage target is intended to reduce IFM costs

- EM and portside sampling coverage targets would be calculated independent of and in addition to SBRM
  - 50% EM video review and 50% portside sampling = 50% coverage target
  - A vessel may carry a SBRM observer on the same trip that would be sampled portside
  - Value in comparing SBRM observer data with data collected by EM and portside sampling

PDT/FMAT Recommendations for Combined Coverage Targets

- There are technical challenges to calculating combined coverage targets
- PDT/FMAT recommends previous year's SBRM coverage be used to calculate a combined coverage target
- PDT/FMAT suggests than NMFS calculate the additional IFM coverage necessary to meet the coverage target

Council Consideration

- Would the Council like to clarify how combined coverage targets are calculated?

Current Slippage Requirements

- Limited access mackerel vessels must bring catch aboard for sampling by an observer unless there is a safety issue, mechanical failure, or excess catch of dogfish
- If slippage occurs, limited access vessels must report the event via VMS and complete a released catch affidavit
- Vessels must move 15 nautical miles following an allowable slippage event (safety, mechanical failure, or dogfish catch)
- Vessels must terminate the trip and return to port following a non-allowable slippage event (for any other reason)

Slippage Requirements

- Initially slippage reporting requirements, restrictions, and consequence measures only applied to IFM trips covered by NEFOP-level observers
- Council recommended that slippage reporting requirements and restrictions be extended to IFM trips covered by at-sea monitors and EM/portside samplers (the MAFMC motion was not explicit regarding slippage consequence measures)

PDT/FMAT Recommendations for Extending Slippage Requirements

- PDT/FMAT believes EM can detect a slippage event, but does not know if EM can be used to determine the cause of a slippage event
- If EM cannot determine the cause of a slippage event, it is likely not appropriate to use EM to verify compliance with slippage consequence measures
- PDT/FMAT recommends evaluating extending slippage consequences measures to IFM trips covered by EM at the conclusion of the EM pilot project
- PDT/FMAT recommends that slippage consequence measures not be extended to IFM trips covered by EM at this time, but that measures could be extended via a framework action

Council Consideration

- Would the Council like to extend slippage consequence measures to:
  - IFM trips covered by NEFOP-level observers and at-sea monitors and evaluate extending to EM trips after the pilot project is complete?

  -OR-

  - IFM trips covered by all monitoring types (including EM) using uniform consequence measures?
- Would the Council like to make slippage consequence measures for IFM trips frameworkable?

UPDATES TO BIOLOGICAL IMPACTS OF MACKEREL COVERAGE TARGET ALTERNATIVES

Mackerel Alternatives 2.1-2.4

- Differ by type of data collected
- Differ by how coverage is allocated
- Differ by amount of coverage

NEFOP Observer Coverage in 2015

Gear	Observer Coverage
Midwater Trawl	4.7%
Purse Seine	2.5%
Small Mesh Bottom Trawl	9.1%

Catch Cap CVs and NEFOP Coverage for Mackerel Alternative 1

Catch Cap	2014	2015
River Herring and Shad	48.9% (37.8%)	22.7% (7.3%)
NEFOP coverage is shown in parentheses. 2015 data are preliminary.		

Simulated Catch Cap CVs for Mackerel Alternatives

- Due to structure of the Mackerel Alternatives and very limited data available, simulation was infeasible
- Previous analysis of midwater trawl fleet showed 26%-54% NEFOP-level coverage for 30% CV on river herring and shad catch in the mackerel fishery
- For herring:
  - Sothern New England river herring and shad (SMBT and MWT) coverage targets 25% and higher will generally generate CVs less than 30%
  - River herring and shad Gulf of Maine and Cape Cod (MWT) coverage targets 50% and higher will generate CVs around 30% and lower

Proposed and Observed Sea Days for Fleets that Harvest Mackerel

Fleet	Region	Proposed sea days for April 2016 to March 2017	Observed sea days, July 2014 to June 2015	VTR sea days, July 2014 to June 2015	Observed trips, July 2014 to June 2015	VTR trips, July 2014 to June 2015
Small Mesh Bottom Trawl	MA	1,171	997	6,761	360	3,088
Small Mesh Bottom Trawl	NE	798	933	8,847	319	3,381
Purse seine	MA	6	0	174	0	172
Purse seine	NE	19	29	661	13	315
Midwater Trawl (Pair and Single)	MA	30	8	134	1	26
Midwater Trawl (Pair and Single)	NE	440	160	1,189	43	363

Biological Impacts of Mackerel Coverage Target Alternatives

- Mackerel Alternative 1 – Low Positive
- Mackerel Alternative 2 – Low Positive
  - Data on retained and discarded catch – Positive
  - Data collected on retained catch – Low positive
  - Coverage allocated by fleet – Positive
  - Coverage allocated by permit – Low Positive
  - Sub-Option 1 – Positive
  - Sub-Option 5 – Low Negative

UPDATES TO ECONOMIC IMPACTS OF MACKEREL COVERAGE TARGET ALTERNATIVES

Midwater Trawl Landing Ports

Ports	Currently Sampled (Y/N)	Issues Affecting Sampling
Maine		
Portland	Y	None
Rockland	Y	None
Vinalhaven	N	Not cost effective; fish sold over the side of vessels
Prospect Harbor	Y	None
Jonesport	Y	None
Massachusetts		
Boston	N	Costly to sample; logistically challenging; unsafe area
Gloucester	Y	Only a few landings during the year
New Bedford	Y	Logistically challenging; safety issues
Rhode Island		
Point Judith	Y	None
North Kingstown	N	Only frozen product landed
Newport	N	Safety issues
New Jersey		
Cape May	Y	None

Midwater Trawl Landing Ports

- 95% of midwater trawl landings are in ports with portside sampling
- Some vessels only land in a single port and that port is not currently sampled portside
- Travel time and seller/buyer arrangements are likely to be most affected
- Vessel may need to substantially revise its business plan if it must land in a port it has not previously used

Other Updates to Economic Analysis

- Text was added to clarify the following:
  - Depreciation of vessel improvements is included in the return-to-owner (RTO) calculation
  - Depreciation of the vessel is not included in the RTO calculation because that information was not collected in the survey
- Text was added to further explain box plot analysis
- RTO analysis by fishery was not added to the analysis, instead analysis continues to show revenue by fishery

Summary of Median Potential Reduction in RTO From Monitoring Costs

- Mackerel Alternative 2.1 – 11.9% to 4.3%
- Mackerel Alternative 2.2 – 10.3% to 1.4%
- Mackerel Alternative 2.3 – 35.1% to 1.4%
- Mackerel Alternative 2.4 – 35.1% to 1.6%

Conclusions of Economic Analysis

- Single MWT and Tier 1 SMBT (combined) vessels have highest monitoring costs as a percentage of RTO
- Mackerel revenue comprises a smaller portion of total revenue for vessels participating in the mackerel fishery
- Exempting trips that catch < 25 mt of mackerel reduces monitoring costs
- EM and Portside is generally less expensive than comparable levels of ASM coverage in Year 2, but not Year 1
- Many vessels impacted by IFM costs in the mackerel fishery would also be impacted by IFM costs in the herring fishery

Summary of Mackerel Coverage Target Alternative Impacts

Alternatives	Biological Impacts	Economic Impacts
Mackerel Alt 1	Low Positive	Low Positive
Mackerel Alt 2	Low Positive	Negative
Mackerel Alt 2.1	Low Positive	Negative
Mackerel Alt 2.2	Low Positive	Negative
Mackerel Alt 2.3	Low Positive	Negative
Mackerel Alt 2.4	Low Positive	Negative

Update on Herring/Mackerel EM Project

- NMFS received $400,000 to support EM project
- Request for proposals went out to small business EM service providers on May 5 and closed on May 31
- NMFS expects to award service provider contract in June
- Service provider will work with NMFS and vessels to generate vessel monitoring plans
- NMFS outreach to vessels has already begun
- Hoping to involve all active midwater trawl vessels on a volunteer basis
- Project expected to be completed in the Fall of 2017

Timeline

Dates	Meeting/Deadline	Action
January 2016	NEFMC Meeting	NEFMC selected preliminary preferred omnibus alternatives
February 2016	MAFMC Meeting	MAFMC selected preliminary preferred omnibus alternatives
June 2016	MAFMC and NEFMC Meetings	MAFMC and NEFMC select preliminary preferred mackerel and herring alternatives
		MAFMC and NEFMC approve Draft EA for public comment
July-August 2016		30-day comment period on Draft EA and public hearings
September-October 2016	MAFMC and NEFMC Meetings	NEFMC and MAFMC take final action
November 2016-February 2017		EA finalized and proposed and final rulemaking
March 2017		Final rule effective
Winter 2017/2018		Implementation of IFM Amendment

Council Consideration

- Would the Council like to identify a preliminary preferred Mackerel Coverage Target Alternative including Sub-Options?

Coverage Target Considerations

- Type of information collected and program cost are two major considerations with industry-funded monitoring
- Benefits of increased monitoring should equal or outweigh the costs of monitoring
- If Sub-Option 1 is not selected and fishing effort is reduced to match available monitoring, OY may not be achieved
- FMPs should allow OY to be achieved on a continuing basis, if management measures are to restrictive then they should be modified

Gear Type	MWT All Tiers	SMBT Tier 1	SMBT Tier 2	SMBT Tier 3
Alt 1: No Coverage Target for IFM Programs (No Action)	SBRM	SBRM	SBRM	SBRM
Alt 2: Coverage Targets Specified for IFM Programs	Includes Sub-Options: Waiver Allowed, Wing Vessel Exemption, 2 Yr Sunset, 2 Yr Re-Evaluation, and 25 mt threshold			
Alt 2.1: NEFOP-Level Coverage	100% NEFOP	100% NEFOP	50% NEFOP	25% NEFOP
Alt 2.2: ASM Coverage	25% - 100% ASM	25% - 100% ASM	SBRM (No Action)	SBRM (No Action)
Alt 2.3: Combination Coverage	50, 100% EM/Portside	25% - 100% ASM	SBRM (No Action)	SBRM (No Action)
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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.				

Mackerel Alternative 2 Sub-Options

- Sub- Option 1: Waiver allowed if IFM coverage is not available
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- Sub-Option 4: IFM requirements are re-evaluated in two years
- Sub-Option 5: IFM requirements only apply on trips that land more than 25 mt of mackerel

Council Consideration

- Would the Council like to approve the Draft EA for public hearings?

EXTRA SLIDES

IFM Amendment Timelines

Dates	Option 1	Option 2
June 2016	Approve Draft EA for public comment	Approve Draft EA for public comment
July 2016	Herring/Mackerel EM Project initiated	Herring/Mackerel EM Project initiated
September and October 2016		NEFMC and MAFMC take final action on IFM Amendment
March 2017		Final Rule effective for IFM Amendment
November 2017	Herring/Mackerel EM Project completed	Herring/Mackerel EM Project completed
December 2017 and January 2018	MAFMC and NEFMC take final action on IFM Amendment	
Winter 2017/2018		IFM Amendment implemented
Summer 2018	Final Rule effective for IFM Amendment	
2019	IFM Amendment implemented	

Monitoring Cost on Declared Herring Trips that did not Land Herring

Cost Categories	Small Mesh Bottom Trawl	Single Midwater Trawl	Paired Midwater Trawl	Total
Total Number of Sea Days	111	6	4	121
100% NEFOP Coverage	$90,798	$4,908	$3,272	$98,978
100% ASM Coverage	$78,810	$4,260	$2,840	$85,910
75% ASM Coverage	$59,108	$3,195	$2,130	$64,433
50% ASM Coverage	$39,405	$2,130	$1,420	$42,955
25% ASM Coverage	$19,703	$1,065	$710	$21,478
100% EM Coverage		$1,950	$1,300	$3,250
50% EM Coverage		$1,122	$748	$1,870
Monitoring costs are on an annual basis. Data are from 2014.				

Monitoring Cost Estimates

Types of Monitoring	NMFS Cost	Vessel Cost
NEFOP-Level Observer	$479 per sea day	$818 per sea day
At-Sea Monitor	$530 per sea day	$710 per sea day
Electronic Monitoring	Year 1: $36,000 startup plus $97 per sea day Year 2: $97 per sea day	Year 1: $15,000 startup plus $325[1] or $187[2] per sea day Year 2: $325[1] or $187[2] per sea day
Portside Sampling	$479-$530 per sea day	$5.12[1] or $3.84[2] per mt

1 – Initial cost assumptions
2 – Revised cost assumptions

EM/Portside Coverage Targets

- 100% EM/Portside Coverage
  - Cameras on 100% of trips, recording for the entire duration of the trip
  - 100% video review
  - 100% of trips sampled portside
- 50% EM/Portside Coverage
  - Cameras on 100% of trips, recording during haulback only (one camera may be recording during the entire trip)
  - 50% video review
  - 50% of trips sampled portside

Special Considerations Regarding Estimates of Monitoring Costs

- Monitoring program costs vary within and between years
- NMFS costs do not scale well to sea day
- Appendix 6 describes several industry cost estimates from public sources
- Mackerel economic analysis uses costs comparable to proposed alternatives

Estimated Impacts on Paired Midwater Trawl Vessels

	Gear Type	Paired MWT			
	Median Return-to-Owner (RTO)	$195,500	$228,943	Median Sea Days	
Alternative	Median Potential Reduction to RTO	≥ 20k lb	> 25 MT	≥ 20k lb	> 25 MT
2.1	100% NEFOP-level	5.1%	4.3%	15	12
2.2	100% ASM	4.4%	3.7%	15	12
	75% ASM	3.3%	2.8%	11	9
	50% ASM	2.3%	2.0%	8	6
	25% ASM	1.4%	1.4%	5	4
2.3 and 2.4	EM/Portside Year 1[1]	10.7%	10.1%	15	12
	EM/Portside Year 2[1]	3.8%	3.7%	15	12
	EM/Portside Year 1[2]	9.1%	8.2%	8	6
	EM/Portside Year 2[2]	1.8%	1.6%	8	6

1- Initial cost assumptions and 2- Revised cost assumptions

Information in this table based on landings data and not trip declaration.

Estimated Impacts on Single Midwater Trawl Vessels

	Gear Type	Single MWT			
	Median Return-to-Owner (RTO)	$121,026	$152,773	Median Sea Days	
Alternative	Median Potential Reduction to RTO	≥ 20k lb	> 25 MT	≥ 20k lb	> 25 MT
2.1	100% NEFOP-level	11.9%	6.9%	12	13
2.2	100% ASM	10.3%	6.0%	12	13
	75% ASM	7.9%	6.0%	9	10
	50% ASM	5.2%	5.3%	6	7
	25% ASM	3.1%	3.1%	4	6
2.3 and 2.4	EM/Portside Year 1[1]	22.6%	35.1%	12	13
	EM/Portside Year 2[1]	8.3%	16.4%	12	13
	EM/Portside Year 1[2]	18.3%	25.7%	6	7
	EM/Portside Year 2[2]	3.8%	7.0%	6	7
1- Initial cost assumptions and 2- Revised cost assumptions					
Information in this table based on landings data and not trip declaration.					

Estimated Impacts on Small Mesh Bottom Trawl Vessels

	Gear Type	SMBT (Tier 1)			
	Median Return-to-owner (RTO)	$121,026	$152,773	Median Sea Days	
Alternative	Median Potential Reduction to RTO	≥ 20k lb	> 25 MT	≥ 20k lb	> 25 MT
2.1	100% NEFOP-level	11.9%	6.9%	12	13
2.2 and 2.3	100% ASM	10.3%	6.0%	12	13
	75% ASM	7.9%	6.0%	9	10
	50% ASM	5.2%	5.3%	6	7
	25% ASM	3.1%	3.1%	4	6
Alternative 2.4 would not apply to small mesh bottom trawl vessels.					
Information in this table based on landings data and not trip declaration.					

Comparison of Revenue Sources Across Vessels

Fleet	Paired MWT		Single MWT & SBMT	
Catch Level	≥ 20k LB	> 25 MT	≥ 20k LB	> 25 MT
Total Revenue (million)	$1.5	$1.3	$2.4	$2.0
% Revenue Herring	18.8%	15.4%	28.9%	23.8%
% Revenue Mackerel	80.9%	84.4%	35.7%	41.4%
% Revenue Squid	-		3.9%	0.2%
Data shown by trips harvesting ≥ 20,000 lb of mackerel and > 25 mt of mackerel				