Rockfish Program (RP) - Electronic Monitoring (EM) Approach 1 - Maximized Retention

AP Motions and Rationale (Motion 3)

RP EM Prep Document

Approach 1: Maximized retention for all trips

• Gear: Pelagic Trawl / Nonpelagic Trawl

• EM: 100%

• At-Sea Observer: Not applicable

• Shoreside Sampling: 100%

• Purpose of EM: Compliance monitoring

• **Fee structure:** Full coverage; Potential for vessel to pay applicable % of total EM system maintenance cost relative to their participation in the trawl EM category as a PC vessel.

For all trips, regardless of Pelagic Trawl / Nonpelagic Trawl usage, the EM system would be active from the time the vessel leaves the dock through completion of delivering all catch to a shoreside processor. Shoreside sampling will occur for 100% of deliveries and sampling will be determined by the Observer Program.

The required number of shoreside observers would be determined similar to trawl EM and would be based upon meeting sampling objectives as outlined in the Annual Deployment Plan.

Pros:

- Increased catch accounting by utilizing maximized retention in the same way as the trawl EM category.
- Rapid implementation timeline. These regulations already exist for the trawl EM category and could easily be expanded to the Rockfish Program.
- Fewest total number of observers to meet management needs.

- No at-sea discard of any groundfish species. Allowable discards would be restricted to those needed to maintain the safety or stability of the vessel and organisms too large to be retained, and species.
- Unlike the trawl EM category, vessels would not indicate gear usage prior to departure and would be subject to EM coverage for all trips in the Rockfish Program for the duration of a fishing year in which they were approved.

Rockfish Program (RP) - Electronic Monitoring (EM) Approach 2 - Trip-by-Trip Discard

AP Motions and Rationale (Motion 3)

RP EM Prep Document

Approach 2: Trip-by-Trip Discard / No-Discard

• Gear: Pelagic Trawl / Nonpelagic Trawl

• **EM:** 100% on all trips

• At-Sea Observer: 100% on trips where discards occur

• Shoreside Sampling: 100% on EM trips, Undetermined for Discard Trips

• **Purpose of EM:** Compliance monitoring

• **Fee structure:** Full coverage; Potential for vessel to pay applicable % of total EM system maintenance cost relative to their participation in the trawl EM category as a PC vessel.

Prior to departing the dock, vessels must indicate whether they intend to discard any catch. Vessels that indicate the intent to discard catch would be required to carry an observer for that trip. Trips where the vessel indicates they are not going to discard would require full retention of all species and shoreside sampling by observers at the plant. Regardless of the intent to discard, all vessels would be subject to 100% EM coverage on all trips.

The required number of shoreside observers would be determined similar to trawl EM and would be based upon meeting sampling objectives as outlined in the Annual Deployment Plan.

Pros:

- Expedited implementation timeline. Most of the necessary regulations already exist for the trawl EM category and could easily be expanded to the Rockfish Program, but additional regulation writing would be needed.
- This approach would allow vessels to discard catch for some of their trips in a given fishing year, regardless of gear type.

- Additional observers would be required when compared to approach 1.
- For trips where discards are allowed, catch accounting of discards would be based on extrapolation of at-sea samples.

Rockfish Program (RP) - Electronic Monitoring (EM) Approach 3 - Halibut Discard Chute

AP Motions and Rationale (Motion 3)

RP EM Prep Document

Approach 3: Halibut Enumeration and Lengthing

• Gear: Pelagic Trawl / Nonpelagic Trawl

• EM: 100%

• At-Sea Observer: Not applicable

• Shoreside Sampling: 100%

- **Purpose of EM:** Verify retention requirements (all species except halibut) and Partial catch accounting (for halibut discards)
- **Fee structure:** Full coverage; Potential for vessel to pay applicable % of total EM system maintenance cost relative to their participation in the trawl EM category as a PC vessel.

Vessels would be permitted to discard Pacific halibut (*Hippoglossus stenolepis*) on all trips in the Rockfish Program contingent on the usage of a halibut discard chute. The discard chute would need to allow for the collection of lengths of discarded halibut. Under this approach, no at-sea observers would be necessary.

The required number of shoreside observers would be determined similar to trawl EM and would be based upon meeting sampling objectives as outlined in the Annual Deployment Plan.

Pros:

- This approach would allow vessels to discard halibut for all trips in a given fishing year, regardless of gear type.
- Avoids estimates of halibut PSC being derived from extrapolation of at-sea samples

- Slower implementation timeline. While some of the necessary regulations already exist for the trawl EM category and could easily be expanded to the Rockfish Program, additional regulations would be needed to ensure the halibut discard chute meets management needs.
- Would create more complicated catch accounting and require programming changes to enable 2 streams of data per trip (offload data from observers and halibut data from EM reviewers, after the fact)
- There would be a time-lag before halibut PSC data was available, which could create a problem if participants ever got close to halibut PSC limit.

- Less robust catch accounting than approach 1, but still an increase in comparison to Status Quo. Lengths estimated using the discard chute would likely be less precise than those collected by a shoreside observer.
- Increased EM review costs associated with verification of halibut lengths whether the lengths are collected by Artificial Intelligence or human review staff.

Rockfish Program (RP) - Electronic Monitoring (EM) Approach 4 - Expanded Discard Chute

AP Motions and Rationale (Motion 3)

RP EM Prep Document

Approach 4: Expanded Discard Chute

• Gear: Pelagic Trawl / Nonpelagic Trawl

• EM: 100%

• At-Sea Observer: Yes (something less than 100%)

• Shoreside Sampling: No

• **Purpose of EM:** Increased (Full?) catch accounting

• **Fee structure:** Full coverage; Potential for vessel to pay applicable % of total EM system maintenance cost relative to their participation in the trawl EM category as a PC vessel.

Vessels would be permitted to discard Pacific halibut (*Hippoglossus stenolepis*) and other groundfish species, such as Giant Grenadier (*Albatrossia pectoralis*), on all trips in the Rockfish Program contingent on the usage of a discard chute. The discard chute would need to allow for the collection of lengths of discarded halibut and speciation of other groundfish species. Additional length data may also need to be collected. Under this approach, no at-sea observers would be necessary.

The required number of shoreside observers would be determined similar to trawl EM and would be based upon meeting sampling objectives as outlined in the Annual Deployment Plan.

Pros:

• This approach would allow vessels to discard halibut and other groundfish for all trips in a given fishing year, regardless of gear type.

- Slowest implementation timeline.
 - While some of the necessary regulations already exist for the trawl EM category and could easily be expanded to the Rockfish Program, additional regulations would be needed to ensure the halibut discard chute meets management needs.
 - Additional analysis would be needed to examine the impact linked to the loss of additional biological data. This approach would be combined with some level of at-sea observer coverage to obtain biological samples.
- Less robust catch accounting than all approaches and Status Quo and increased EM review costs associated with catch accounting. NMFS would have to develop

methods to obtain estimated lengths and weights for multiple species or methods to convert species counts to estimated weights. Pre-implementation work would be required to demonstrate that species identification and weight conversion is possible.

Rockfish Program EM Approaches

Approach	Components	Description	Pros	Cons
Approach Approach 1: Maximized Retention for all trips	Gear: Pelagic Trawl / Nonpelagic Trawl EM: 100% At-Sea Observer: Not applicable Shoreside Sampling: 100%	For all trips, regardless of Pelagic Trawl / Nonpelagic Trawl usage, the EM system would be active from the time the vessel leaves the dock through completion of delivering all catch to a shoreside processor. Shoreside sampling will occur for 100% of deliveries and sampling will be determined by the Observer Program.	Increased catch accounting by utilizing maximized retention in the same way as the trawl EM category. Rapid implementation timeline. These regulations already exist for the trawl EM category and could easily be expanded to the Rockfish Program. Fewest total number of observers to meet	No at-sea discard of any groundfish species. Allowable discards would be restricted to those needed to maintain the safety or stability of the vessel and organisms too large to be retained, and species. Unlike the trawl EM category, vessels would not indicate gear usage prior to departure and would be subject to EM
	Purpose of EM: Compliance monitoring Fee structure: Full coverage; Potential for vessel to pay applicable % of total EM system maintenance cost relative to their participation in the trawl EM category as a PC vessel.	The required number of shoreside observers would be determined similar to trawl EM and would be based upon meeting sampling objectives as outlined in the Annual Deployment Plan.	management needs.	coverage for all trips in the Rockfish Program for the duration of a fishing year in which they were approved.

Approach 2:	Gear: Pelagic Trawl /	Prior to departing the dock, vessels must	Expedited implementation timeline.	Additional observers would be
Trip-by-Trip	Nonpelagic Trawl	indicate whether they intend to discard	Most of the necessary regulations already	required when compared to approach
Discard /	Trompolagio Irawi	any catch. Vessels that indicate the intent	exist for the trawl EM category and could	1.
No-Discard	EM: 100% on all trips	to discard catch would be required to	easily be expanded to the Rockfish	1.
110 Discurd	EM. 10070 on an trips	carry an observer for that trip. Trips	Program, but additional regulation	For trips where discards are allowed,
	At-Sea Observer: 100% on	where the vessel indicates they are not	writing would be needed.	catch accounting of discards would be
	trips where discards occur	going to discard would require full	writing would be needed.	based on extrapolation of at-sea
	lips where diseards occur	retention of all species and shoreside	This approach would allow vessels to	samples.
	Shoreside Sampling: 100%	sampling by observers at the plant.	discard catch for some of their trips in a	samples.
	on EM trips, Undetermined	Regardless of the intent to discard, all	given fishing year, regardless of gear	
	for Discard Trips	vessels would be subject to 100% EM		
	for Discard Trips	coverage on all trips.	type.	
	Purpose of EM:	coverage on an urps.		
	Compliance monitoring	The required number of shoreside		
	Compliance monitoring	observers would be determined similar		
	Ess stansaturas Euli			
	Fee structure: Full	to trawl EM and would be based upon		
	coverage; Potential for	meeting sampling objectives as outlined		
	vessel to pay applicable %	in the Annual Deployment Plan.		
	of total EM system			
	maintenance cost relative to			
	their participation in the			
	trawl EM category as a PC			
	vessel.			

Approach 3:	Gear: Pelagic Trawl /	Vessels would be permitted to discard	This approach would allow vessels to	Slower implementation timeline.
Halibut	Nonpelagic Trawl	Pacific halibut (<i>Hippoglossus stenolepis</i>)	discard halibut for all trips in a given	While some of the necessary
Enumeration		on all trips in the Rockfish Program	fishing year, regardless of gear type.	regulations already exist for the trawl
and Length	EM: 100%	contingent on the usage of a halibut		EM category and could easily be
Collection		discard chute. The discard chute would	Avoids estimates of halibut PSC being	expanded to the Rockfish Program,
	At-Sea Observer: Not	need to allow for the collection of	derived from extrapolation of at-sea	additional regulations would be needed
	applicable	lengths of discarded halibut. Under this	samples	to ensure the halibut discard chute
		approach, no at-sea observers would be		meets management needs.
	Shoreside Sampling: 100%	necessary.		
				Would create more complicated catch
	Purpose of EM: Verify	The required number of shoreside		accounting and require programming
	retention requirements (all	observers would be determined similar		changes to enable 2 streams of data per
	species except halibut) and	to trawl EM and would be based upon		trip (offload data from observers and
	Partial catch accounting (for	meeting sampling objectives as outlined		halibut data from EM reviewers, after
	halibut discards)	in the Annual Deployment Plan.		the fact)
	Fee structure: Full			There would be a time-lag before
	coverage; Potential for			halibut PSC data was available, which
	vessel to pay applicable %			could create a problem if participants
	of total EM system			ever got close to halibut PSC limit.
	maintenance cost relative to			ever got crose to manout 1 50 mmt.
	their participation in the			Lengths estimated using the discard
	trawl EM category as a PC			chute would likely be less precise than
	vessel.			those collected by a shoreside observer.
				Increased EM review costs associated
				with verification of halibut lengths
				whether the lengths are collected by

Artificial Intelligence or human review

staff.

Approach 4:			
Expanded			
Discard Chute			

Gear: Pelagic Trawl / Nonpelagic Trawl

EM: 100%

At-Sea Observer: N/A

Shoreside Sampling: No

Purpose of EM: Increased (Full?) catch accounting

Fee structure: Full coverage; Potential for vessel to pay applicable % of total EM system maintenance cost relative to their participation in the trawl EM category as a PC vessel.

Vessels would be permitted to discard Pacific halibut (*Hippoglossus stenolepis*) and other groundfish species, such as Giant Grenadier (*Albatrossia pectoralis*), on all trips in the Rockfish Program contingent on the usage of a discard chute. The discard chute would need to allow for the collection of lengths of discarded halibut and speciation of other groundfish species. Additional length data may also need to be collected. Under this approach, no at-sea observers would be necessary.

The required number of shoreside observers would be determined similar to trawl EM and would be based upon meeting sampling objectives as outlined in the Annual Deployment Plan.

This approach would allow vessels to discard halibut and other groundfish for all trips in a given fishing year, regardless of gear type.

Slowest implementation timeline.

- While some of the necessary regulations already exist for the trawl EM category and could easily be expanded to the Rockfish Program, additional regulations would be needed to ensure the halibut discard chute meets management needs.
- Additional analysis would be needed to examine the impact linked to the loss of additional biological data. This approach would be combined with some level of at-sea observer coverage to obtain biological samples.

Less robust catch accounting than all approaches and Status Quo and increased EM review costs associated with catch accounting.

- NMFS would have to develop methods to obtain estimated lengths and weights for multiple species or methods to convert species counts to estimated weights.
- Pre-implementation work would be required to demonstrate that species identification and weight conversion is possible.