

GROUND FISH ELECTRONIC MONITORING POLICY ADVISORY COMMITTEE REPORT

Report to Council

On May 7 and 8, 2014 the Groundfish Electronic Monitoring (GEM) Policy Advisory and Technical Advisory Committees (GEM Committees) met to discuss initial alternatives adopted by the Council for analysis for an electronic monitoring (EM) program. Council staff presented draft definitions, additional draft EM components and options, and a framework for the development of a cost analysis of the potential EM program. The GEM Committees recommended definitions for total catch, discard, maximized and optimized retention, and made some modifications and additions to the Council's adopted alternatives and options for an EM program. The GEM Committees also heard from the only two west coast observer providers (Saltwater Inc. and Alaskan Observers Inc.) regarding their current program activities, their involvement in EM pilot projects, and potential impacts of an EM program on their companies. Their general comments are provided in the Report Summary. Finally, representatives of the industry on the GEMPAC then attempted to pick preliminary preferred alternatives and options; these selections are noted in the Report Summary.

Appendix A of this report contains the GEM Committees' Proposed Agenda. Appendix B contains draft definitions from the West Coast Groundfish Observer Program (WCGOP) and Appendix C contains draft definitions developed by the GEMPAC based on the WCGOP definitions. Appendix D provides an overview of GEMPAC's recommended revisions and additions to the Council's adopted alternatives and options.

Report Summary

In November 2013, the Council adopted for analysis alternatives and options for an EM program. At the Council's April 2014 meeting the Council provided guidance for further development of the alternatives and options. Prior to the GEMPAC meeting, Council staff split these alternatives and options into fishery-specific options to begin the development of an impact analysis to provide guidance to the Council for selecting preliminary preferred alternatives in June 2014. During this process, additional components to the draft EM program for policy decision-making were identified and presented to the GEMPAC for discussion in May. Appendix D, Section 1 provides a description of the recommended revisions made to the Council's adopted alternatives and options, and Section 2 includes new EM components and options developed by the GEMPAC.

These revisions and new options can also be found in the Council's draft decision document titled "Draft Analysis of an Electronic Monitoring Program for the Pacific Coast Limited Entry Trawl Groundfish Fishery Catch Shares Program" (Agenda Item F.2.a, Attachment 1). The draft decision document provides background on the development of the EM program, alternatives and options, and an initial draft impact and cost analysis.

GEMPAC Recommendations

The GEMPAC provides the following recommendations for further development of an EM program and Council consideration:

Recommendation 1: The GEMPAC recommends adopting the definitions for total catch, retained catch, discard, maximized, and optimized retention for trawl and fixed gear as noted in Appendix C for the purpose of development and analysis of an EM program.

Recommendation 2: The GEMPAC recommends revising the alternatives and options as detailed in Appendix D “Recommended Revisions and Additions to Adopted Alternatives and Options.”

Potential Preliminary Preferred Alternatives (PPA)

The following alternatives and options were preliminarily recommended by representatives of the industry that participate on the GEMPAC. At the time of the GEMPAC meeting, much of the data and cost analysis was not available to make a decision on all alternatives and options, however; representatives provided a “best guess” at the time based on their knowledge of the issues, their constituents’ needs, and forthcoming impact and cost analysis. The GEMPAC will review a more thorough analysis prior to the September Council meeting to provide further guidance.

Monitoring for Discards

Two action alternatives have been identified to account for fish under an EM program:

Alternative 2: Camera Recordings Used to Estimate Discard

Option A: 100% (census).

Option B: Subsample Video (% to review must be developed)

Alternative 3: Logbooks Used to Estimate Discard, with Camera Audits.

PPA: Fixed gear representatives prefer self-reporting and logbook audit (Alternative 3)

PPA: Midwater trawl whiting representatives prefer self-reporting and audit logbook (Alternative 3) at 10% review level but wants to see analysis for video subsampling/expansion option before choosing (Alternative 2, Option B)

Retention Options and Allowable Discard

For analysis purpose the GEMPAC has developed draft definitions for the retention of species under an EM program (Maximized Retention and Optimized Retention) and are described in Appendix C. The definitions include the regulatory requirements for retention and discard and some discard exceptions that may be allowed based on fishery operations. In addition, some fisheries could be allowed to discard if a species or species group can be clearly identified using video images.

At this time there are three options for retention to choose from that would govern fishery operations:

Option A: Maximize retention; generally retain all retain all catch share species, non-catch share groundfish species, non-groundfish species

Option B: Optimize retention; generally retain all retain all catch share species.

Option C: Discard at will; may discard species according to current regulations

PPA: Fixed gear and bottom trawl representatives prefer Optimized retention (Option B)

PPA: Midwater trawl whiting representatives prefer Maximize retention (Option A)

Payment for Scientific Data Collection/Observations

Previous to the IFQ program NMFS provided scientific data collection on roughly 20 percent of the limited entry trawl fleet. This cost was covered by the Government. Under an EM program scientific data collection will be needed from vessels without an observer. It's estimated that the WCGOP will sample roughly 20-30 percent of the EM fleet however these rates will need to be examined and a sampling scheme developed by NMFS in the future. In addition, a funding source must be identified to support the WCGOP efforts. The GEMPAC developed three options:

Option A: Government funded, same as pre-IFQ

Option B: Industry Funded

Option C: Combination of both Government and Industry

PPA: Most industry representatives would like the government to fund scientific observations on EM trips (Option A)

Summary of Observer Provider Comments

Council staff invited the only two observer providers to talk about how their company may be affected by the development of an EM program (both positive and negative) to assist the GEMPAC and Council staff in the development options and the impact analysis. For example, what are the critical policy decision points or topics of the draft EM program that may affect the provider, would they continue to provide observer coverage, what might be the thresholds for making that decision, and would you expand your program to include EM? Following the providers statements on these topics, the GEMPAC held a Q&A session with the providers.

Much of the discussions and issues that surround EM is the anticipated level of participation in an EM program and the level of need for at-sea observations in the IFQ. Overall up to 7,445 sea-days were observed in the 2013 IFQ fishery.

Sea days for 2013 were as follows:

Shoreside non-whiting (trawl and fixed gear) – 4975

Shoreside whiting – 1934

Mothership catcher vessels – 536

Total WCGOP Catch Shares – 7445

(Data Source: WCGOP)

Summary

The midwater trawl whiting fishery provides significant revenue or the only revenue to observer provider companies. A reduction in the level of observer coverage in the whiting fishery due to implementation of EM may affect observer providers ability to cover additional costs (e.g., overhead for travel and housing) in other fishery sectors. Providing services to other fishery sectors in California, in remote ports that do not require a high level of coverage, or in ports that are sporadic in the number of observers needed is costly to observer providers. Some vessels only need 2 to 5 sea days per month or only one observer is needed in a port part time. At times a full time observer is not needed in a port; however, a vessel will need one at some point in the month. It is difficult to provide fleet support at these low levels for a profit (in California there is no profit margin) and especially difficult to plan the future if the level of EM participation is unknown. Providers are planning their efforts up to 3 years in advance and it's difficult to plan for observer coverage if exempted fishing permits are provided in 2015 in large numbers. One provider suggested limiting the number of EFPs to lessen the impact on all participants in the IFQ program.

Observer providers want to provide the coverage but may need to increase their billable costs if revenue is lost from ports that drastically reduce their demand for observers. They are sensitive to daily costs that may cause hardship to the industry and do not want to drive cost so high that it causes a vessel to tie up and not fish. One provider commented that funding from the cost recovery program of the IFQ program could alleviate increasing costs to vessels and may stabilize the situation.

One provider said it would continue to support the observer needs and does not intend to become an EM provider but looking to create efficiencies in the potential EM program. One observer provider is working on a business model to accommodate an increase in the use of EM and are working on development of open source software to support EM. If there is a reduction in the need for at-sea observations it's possible that both companies may use some observers in another capacity such as to provide review of EM data or system installation/maintenance.

Currently, many at-sea observers play the role of a shoreside catch monitor for the vessel when it offloads. However if the observer is no longer needed then someone will need to fill that catch monitor role. One provider estimated that each processors would need two full time catch monitors in each plant for 100 to 120 days for the whiting fishery, which is 15 to 18 full time positions. The same observer provider commented that when people are living in ports and only working 100 days, it's impossible to keep them there.

The dual role of observer/catch monitor creates efficiencies in the IFQ program; however, this is removed when the observer is removed from the vessel under EM. Observers are trained for at-sea observations and catch monitoring by NMFS WCGOP and PSMFC. If a person does not intend to do at-sea observations, there may be a need to develop a separate training for shoreside catch monitoring that is comprehensive enough and does not rely on the fish identification portion of the at-sea observer training.

APPENDIX A

PROPOSED AGENDA
Groundfish Electronic Monitoring
Policy Advisory and Technical Advisory Committees
DoubleTree by Hilton Seattle Airport,
18740 International Blvd.,
Seattle, WA, 97188
Telephone: 206-246-8600
May 7 - 8, 2014

WEDNESDAY, May 7, 2014 9:00 A.M.

- A. Call to Order/Introductions** Dave Hanson
1. Roll Call/Introductions
 2. Overview/Approve Agenda
 3. Council Process Update Brett Wiedoff
- B. Draft Definitions**
1. Policy Context – Total Mortality Accounting Brett Wiedoff
 2. WCGOP definition (*Handout*)
 3. Draft definitions for total catch, retained catch, discard, maximized retention, optimized retention (*Handout*)
- C. Draft Alternatives – Fishery Specific Alternatives** Brett Wiedoff
1. Revising the gear sector groupings
 2. Review master alternatives and develop gear sector specific alternative/options
 - i) Halibut retention/discard (How can viability assessments be done, can NMFS exempt required discard?)
 - ii) Responsible party for data review and cost implications, industry payments for review of video (Determine what is possible and how? What are the design features that make industry payment more feasible/less feasible?)
 - iii) Data – transfer process and chain of custody
 - iv) Data – confidentiality, access, and ownership (Determine who, what is possible?)
 - v) Examine percent video review needed (video sampling/expansion, logbook audits, risk, compliance issues, who can conduct this analysis)
 - vi) Separate coral and sponges from the “other category?”
 - vii) Discuss EM processes that may be NMFS responsibility:
Observer Exemption Approval Process, List of Approved EM Providers, Type Approval (equipment, data formats/open source issue), IVMP Approval (includes plan modification provisions that require re-approval), Approval of Self-Governing Plans, WCGOP – Potential support of EM program
- D. Discuss preliminary preferred alternatives (PPA)** Brett Wiedoff

1. Provide Council with plausible gear sector specific PPAs

PUBLIC COMMENT PERIOD

THURSDAY, MAY 8, 2014 – 9:00 A.M.

E. Topics for Impact Analysis

1. Status and Overview of impact analysis
2. Cost analysis discussion
 - a. Overview of cost template
 - b. Expected participation rates
 - c. Other
3. Observer provider discussion
 - a. Impact of potential EM program on observer provider companies

Brett Wiedoff
Jim Seger

PUBLIC COMMENT PERIOD

F. Committee Report

1. Review recommendations
2. Schedule for finalizing report

G. Schedule Next Meeting – Other Administrative Matters

ADJOURN

APPENDIX B
Draft Definitions for Total Catch, Retained and Discard
Northwest Fisheries Science Center Observer Program (WCGOP)

NOTE: Information regarding the At-Sea Hake Observation Program definitions were removed from the WCGOP draft document since they do not apply to the EM program.

WCGOP Fixed Gear

Total Catch:

Observer total catch (OTC) is defined as the total sum, or extrapolated weight, of all organic and inorganic material caught by the gear.

How is it estimated?

All organic and inorganic material which breaks the surface of the water and can be reasonably attributed to the vessel is counted and identified by the observer to species, species group, or type, for all - or a subsample - of the set. Weight estimates, taken using multiple weight methods allowed under WCGOP protocol, are applied to everything counted. These weights are summed, or extrapolated to unsampled segments, to calculate the Observer Total Catch.

Retained:

Retained is any portion of the total catch that is delivered to a buyer, consumed aboard, or is used for bait or other purposes.

How is it estimated?

All retained catch or a subsample of, is counted and identified to species, species group, or type. Observer weight estimates for all retained are taken using multiple weight methods allowed under WCGOP protocol. These weight estimates are applied to the counts to determine the weight of retained catch.

Discard:

Discard is any portion of the total catch that is not delivered to a buyer or utilized for any other purposes.

How is it estimated?

All discarded catch, or a subset of, is counted and identified to species, species group, or type. Observer weight estimates for all discards are taken using multiple weight methods allowed under WCGOP protocol. These weight estimates are applied to the counts to determine the weight of discarded catch.

WCGOP Trawl Gear

Total Catch:

Total catch is defined as any organic or inorganic material confined within a trawl net as the net is being landed, as well as any visually discernible catch lost during the retrieval process that can be reasonably attributed to the vessel.

How is it estimated?

Total catch estimates are estimated by an observer as the net is being landed or after the catch is dumped on deck.

Retained:

Retained is any portion of the total catch that is delivered to a buyer, consumed aboard, or is used for bait or other purposes.

How is it estimated?

Retained is estimated using a combination of vessel estimates from the vessel logbook and observer estimates (e.g. overfished species). Observer estimates are taken using multiple weight methods allowed under WCGOP protocol.

Discard:

Discard is any portion of the total catch that is not delivered to a buyer or utilized for any other purposes.

How is it estimated?

Discard estimates are taken by observers using multiple weight methods allowed under WCGOP protocol.

WCGOP Additional Information:

Observers are not able to estimate discard that they cannot see, are not aware of, or has been discarded without their knowledge. Observers do their best to communicate with vessel crew to let them know what portions of the catch they need access to.

Another challenge in estimating discarded catch are any organisms that remain trapped in the mesh of the net after the bag has been dumped and are not removed by the crew. These are commonly known as “gillers”. Their weight is not accounted for in either retained or discard since there is a potential for double-counting and the inability to associate gillers to a particular haul after multiple hauls have been made. These fish make up a very small percentage of the catch.

Catch consumed on board or used for bait is another tricky situation for catch accounting. In 2014 the WCGOP will begin recording this as discard with a unique “reason for discard” of “utilized on board” in order to track this discard from other types of discard. The reason for this is so that this catch will be reported to the vessel account system and debited from quota accounts. Currently the observer program only reports discard to the vessel account system. In previous years, this type of catch was considered retained as it was used by the vessel.

There may be discrepancies between definitions of catch (listed above and followed by observers for data collection purposes) and what is used to calculate fleet wide mortality estimates or reported to the vessel account system for catch accounting purposes (following sections in this document). For example, the fixed gear definition of catch is “..material which breaks the surface of the water...”, however for catch accounting purposes catch estimates are reported for lost gear that does not break the surface of the water. The observer program recognizes these discrepancies and determines that they are necessary in order to effectively train observers to capture data at sea while adequately reporting discards for accurate quota management.

WCGOP Fixed Gear

Lost Gear

Partial Set Lost

Scientific Analysis/Reporting protocols- Effort (i.e., fish tickets) from these sets result in discard accounting for these sets within the fleet-wide discard estimates.

Catch Accounting Protocols (Catch share quota pounds reported to the Vessel Account system for debiting) - Retained and discard observer estimates from the haul are expanded to the total set, as it is assumed the observer data for the sampled portion of the gear (retained and discard) adequately represents the composition of the lost portion of gear. Both retained and discarded catch estimates for IFQ species occurring on the lost portion of the gear are reported as discard. Additionally, PHLB has an assumed mortality rate of “dead” when occurring in lost gear.

Full Set Lost

Scientific Analysis/Reporting protocols - Effort (i.e., fish tickets) from these sets result in discard accounting for these sets within the fleet-wide discard estimates.

Catch Accounting Protocols (Catch share quota pounds reported to the Vessel Account system for debiting) – A catch per unit of effort is determined for all retained and discarded IFQ species from other sets observed during the trip and applied to the number of units of effort (hooks, pots, etc) for the lost set. These estimates for the lost gear are summed and reported as discard. Additionally, all PHLB estimated to have occurred in the lost gear are assigned a mortality rate of “dead”. In the event that no other sets were sampled within the trip, like sets from other trips made by the vessel are used. Like sets are those sets observed on the same vessel with the same gear type and target strategy occurring in a similar area, depth and time period.

Unobserved Sets

Scientific Analysis/Reporting – For fisheries outside of the trawl IFQ fishery effort (i.e., fish tickets) from these sets result in discard accounting for these sets within the fleet-wide discard estimates. For the trawl catch share fishery ratio estimators are used to apportion unsampled weight to specific species.

Catch Accounting Protocols (Catch share quota pounds reported to the Vessel Account system for debiting) – A catch per unit of effort is determined for discarded IFQ

species from other sets observed during the trip and applied to the number of units of effort (hooks, pots, etc) for the unobserved set. Only discarded catch is estimated and reported as discard as the retained catch is and landed by the vessel and reported through landings/catch monitors. In the event that no sets were sampled within the trip, like sets from other trips are used. Like sets are those sets observed on the same vessel with the same gear type and target strategy occurring in a similar area, depth and time period.

Reclaimed (previously lost) Gear

Sets lost, but later found, are handled on a case by case basis taking into consideration factors such as how long the gear was lost and if any viable fish were retrieved. Generally these are handled using the partially or fully lost set protocols listed above.

WCGOP Trawl Gear

Lost Gear

Scientific Analysis/Reporting protocols- Effort (i.e., fish tickets) from these sets result in discard accounting for these sets within the fleet-wide discard estimates.

Catch Accounting Protocols (Catch share quota pounds reported to the Vessel Account system for debiting) - – A catch per unit of effort is determined for all retained and discarded IFQ species from other sets observed during the trip and applied to the number of units of effort (tow minutes) for the lost set. These estimates for the lost gear are summed and reported as discard. Additionally, all PHLB estimated to have occurred in the lost gear are assigned a mortality rate of “dead”. In the event that no other sets were sampled within the trip, like sets from other trips made by the vessel are used. Like sets are those sets observed on the same vessel with the same gear type and target strategy occurring in a similar area, depth and time period.

Unobserved Hauls and Unsampled or Partially Sampled Catch

Scientific Analysis/Reporting protocols- – For fisheries outside of the trawl IFQ fishery effort (i.e., fish tickets) from these sets result in discard accounting for these sets within the fleet-wide discard estimates. For the trawl catch share fishery ratio estimators are used to apportion unsampled weight to specific species.

Catch Accounting Protocols (Catch share quota pounds reported to the Vessel Account system for debiting) – Observers are trained to at a minimum make visual estimates of the amount of IFQ and non-IFQ species in hauls that they are unable to sample (broken scales, sickness, etc.). If able, they will make estimates of each discarded species or species group and this is reported as discard to the vessel account system. When a weight estimate of total IFQ species in the haul is all that the observer was able to obtain, the ratios of all discarded IFQ species found in the other sampled hauls in the trip is applied to the IFQ weight estimate. For hauls where the observer is not able to sample or make any estimates of IFQ catch, a catch per unit of effort (tow minutes) is determined for discarded IFQ species from other sets observed during the trip and applied to the number of units of effort (tow minutes) for the unobserved set.

Only discarded catch is estimated and reported as discard as the retained catch is landed by the vessel and reported through landings/catch monitors. In the event that no sets were sampled within the trip, like sets from other trips are used. Like sets are those sets observed on the same vessel with the same gear type and target strategy occurring in a similar area, depth and time period.

APPENDIX C

Draft Definitions for Development and Analysis of an EM Program

Section 1 - Retention Definitions, Requirements, and Exceptions

For analysis purpose the GEMPAC has developed draft definitions for the retention of species under an EM program. The draft definitions were developed based on existing descriptions for maximized and optimized retention options developed in previous GEMPAC reports and adopted by the Council in November 2013. Both definitions contain the same existing regulatory requirements and discard exceptions.

The GEMPAC discussed fishery specific discard options under an optimized retention regulatory environment. The definition for optimized retention contains some fishery specific discard options, however it is difficult for the GEMPAC to select which species are appropriate for allowable discard since species identification issues while using EM limit the options. PSMFC has begun to identify species that may be identifiable for discard and further analysis of these options will need be conducted to assist the Council in choosing an initial species list that is specific to each fishery.

In the future, it's expected that recognition software programs may assist in further refinement or expansion of a species discard list under an optimized retention regulatory environment. During the GEMPAC discussions the group identified that a process to update the species discard list to accommodate advances in fish identification technology or an increase in the ability to identify more species using video review. Therefore a new component was added to the EM program options (see Appendix D Section 1.8)

Maximize Retention:

A vessel is generally required to retain all catch share species, non-catch share groundfish species, non-groundfish species (Non-FMP and not prohibited species). The following regulatory requirements or discard exceptions apply:

Existing Regulatory Requirements

Vessels must discard prohibited, ESA-listed, and marine mammal species unless otherwise allowed to retain them by regulation or under federal exemption for scientific purposes. The following regulatory requirements apply:

- Mid-water trawl IFQ trips for whiting that deliver to shoreside processors must retain prohibited species (halibut, salmon, and Dungeness crab) unless sorting at sea.
- Mid-water trawl catcher vessels delivering to motherships must retain prohibited species (halibut, salmon, and Dungeness crab).
- Midwater trawl whiting trips that are unsorted may discard minor amounts of catch not delivered to shoreside or mothership processors. (current regulation: “Maximized retention vessels participating in the Pacific whiting IFQ fishery may discard minor operational amounts of catch at sea if the observer has accounted for the discard (i.e., a maximized retention fishery).”)

- For LE fixed gear 22 or 24 inch lingcod must be discarded or if the vessel exceeds their non-IFQ trip limit; i.e Regulatory discards. (The minimum size limit for lingcod is 22 inches (56 cm) total length North of 42° N. lat. and 24 inches (61 cm) total length South of 42° N. lat.) **This information would need to be verifiable under an EM system.**

Discard exceptions when fishing under maximized retention - All discards must be enumerated and reported

- The vessel may discard for safety reasons (**define?**),
- The trawl net is ripped or zipper accidentally opened, or fish fell off hook.
- Fish washed out of the trawl net or is overflowing
- Vessels may discard mud, sponges, coral, inverts, and inorganic material not generally retained for sale or use.

Optimize Retention (Retain Catch Share Species with Discard Options):

A vessel is generally required to retain all catch share species. The following regulatory requirements, discard exceptions, or allowable gear specific discards apply:

Existing Regulatory Requirements (Same as Maximized Retention)

Vessels must discard prohibited, ESA-listed, and marine mammal species unless otherwise allowed by regulation or under federal exemption for scientific purposes. The following regulatory requirements apply:

- Mid-water trawl IFQ trips for whiting that deliver to shoreside processors must retain prohibited species (halibut, salmon, and Dungeness crab) unless sorting at sea.
- Mid-water trawl catcher vessels delivering to motherships must retain prohibited species (halibut, salmon, and Dungeness crab).
- Midwater trawl whiting trips that are unsorted may discard minor amounts (**define?**) of catch not delivered to shoreside processors.
- For LE fixed gear 22 or 24 inch lingcod must be discarded or if the vessel exceeds their non-IFQ trip limit; i.e Regulatory discards. (The minimum size limit for lingcod is 22 inches (56 cm) total length North of 42° N. lat. and 24 inches (61 cm) total length South of 42° N. lat.) **This information would need to be verifiable under an EM system.**

Discard exceptions when fishing under maximized retention - All discards must be enumerated and reported (Same as Maximized Retention)

- The vessel may discard for safety reasons (**define?**)
- The trawl net is ripped or zipper accidentally opened, or fish fell off hook.
- Fish washed out of the trawl net or is overflowing
- Vessels may discard mud, sponges, coral, inverts, and inorganic material not generally retained for sale or use.

Potential Gear Specific Sub-options under Optimized Retention:

This information would need to be verifiable under an EM system. Options here are not mutually exclusive; however, there must be adequate images for species identification and weight estimates of catch share species discards.

Midwater trawl non-whiting trips, bottomtrawl, and fixed gear trips may discard the following species if verifiable under the EM program and approved by NMFS:

- a) For catch share species
 - Option a – Allow discard of flatfish
 - Option b – Allow discard of lingcod and sablefish
 - Option c – Allow discard of all non-rockfish groundfish (full retention of rockfish only)
 - Option d – Allow discard if species that are verifiable with EM
- b) For non-catch share groundfish species
 - Option c – Allow discard of all non-rockfish groundfish (full retention of rockfish only)
 - Option d – Allow discard if species that are verifiable with EM
- c) For non-groundfish (Non-FMP and not prohibited species)
 - Option e – Allow discard of all non-groundfish species
 - Option d – Allow discard if species that are verifiable with EM

Section 2 - Definitions for Total Catch, Retained Catch, and Discard

Under the catch shares program, total catch must be accounted for to debit individual quota share accounts and fishery allocations (Figure 1). Retained and discarded catch is combined to get total catch. Shoreside monitors are used to verify retained catch and the West Coast Groundfish Observer Program uses at-sea monitors to account for and estimate discards.

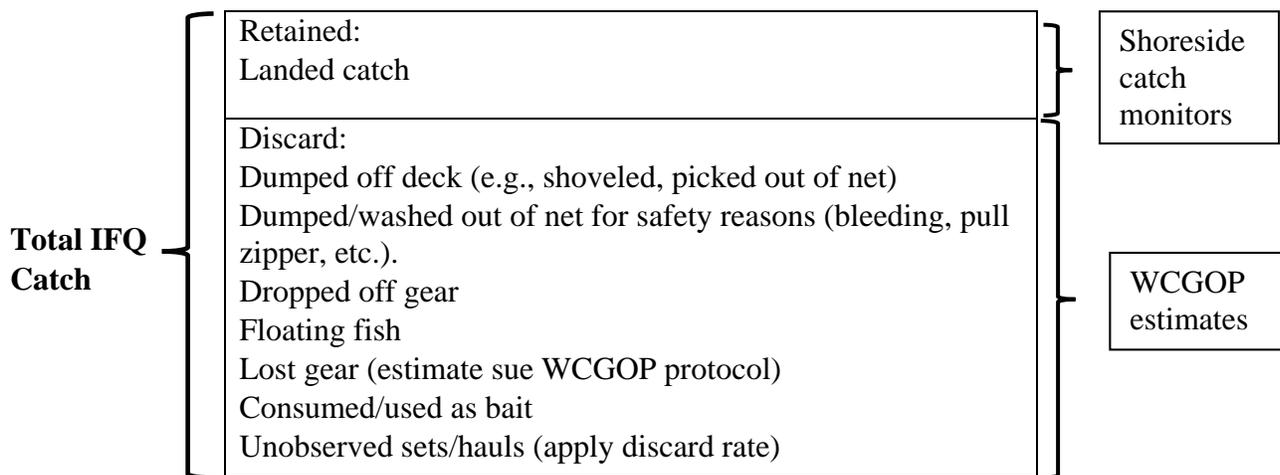


Figure 1. General depiction of total catch accounting in the Shorebased IFQ program.

WCGOP provided the GEMPAC draft definitions of total catch and discard that are specific to trawl and fixed gear. The GEMPAC consolidate the individual gear definitions for total catch and discard into the following draft definitions:

Total catch for trawl: Total catch is defined as the sum, or estimated weight, of all organic and inorganic material caught by the gear, to include any organic or inorganic material confined within a trawl net as the net is being landed, lost gear, as well as any visually discernible catch lost during the retrieval process that can be reasonably attributed to the vessel.

Total catch for fixed gear: Total catch is defined as the sum, or estimated weight, of all organic and inorganic material caught by the gear to include any fish hooked or in a pot as the gear is being landed, lost gear, as well as any visually discernible catch lost during the retrieval process that can be reasonably attributed to the vessel.

Retained catch for fixed gear and trawl: Retained catch is any portion of the total catch that is delivered to a buyer or processor.

Discard for fixed and trawl gear: Discard is any portion of the total catch that is not delivered to a buyer. Fish caught for bait or onboard consumption are considered discard. For gear that is lost or sets and hauls that are unobserved, discard rates will be applied based on similar sets and hauls.

APPENDIX D

Recommended Revisions and Additions to Adopted Alternatives and Options

The GEMPAC provide the following recommended revisions and additions to the Council’s adopted alternatives for an EM program. For a complete table of alternatives with the recommended revisions please see the Table 1 of the Council’s decision document “Draft Analysis of an Electronic Monitoring Program for the Pacific Coast Limited Entry Trawl Groundfish Fishery Catch Shares Program” (June Council meeting Agenda Item F2a, Attachment 2).

2.2.1 - Discard Documentation Technology

The GEMPAC clarified that the discard documentation option is to either use a human observer (No Action, Alternative 1) or a vessel may have the option to use cameras in lieu of human observer in both alternative 2 and 3. The following was added to the table of alternatives: “Individual Vessel Option to Use Cameras in Lieu of Human Observer”

2.3 - Discard Accounting - Individual or Fleet-wide

Under the catch shares program, total catch must be accounted for to debit individual quota share accounts and fishery allocations. Retained and discarded catch is combined to get total catch. Shoreside monitors are used to verify retained catch and the West Coast Groundfish Observer Program uses at-sea monitors to account for and estimate discards.

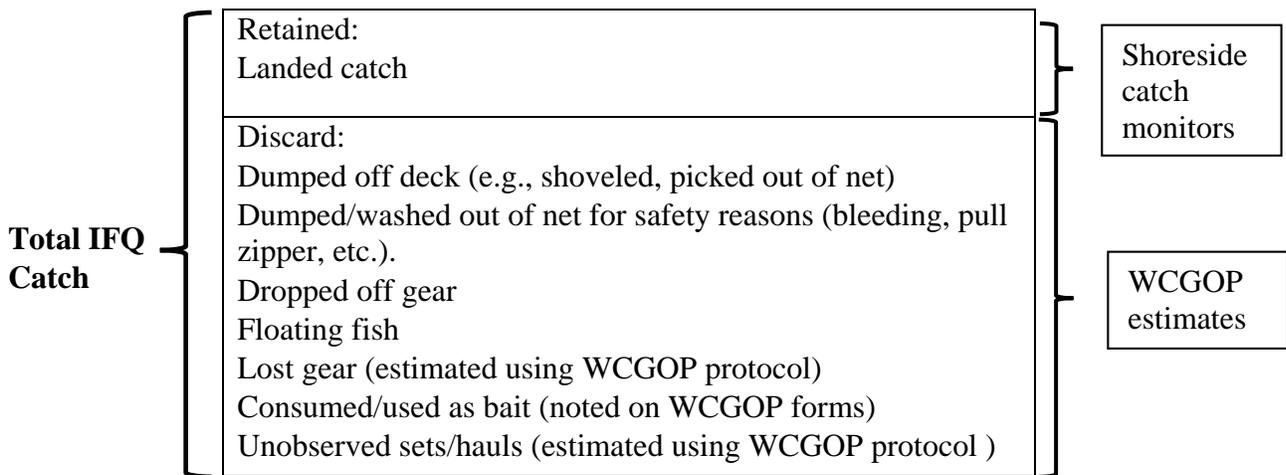


Figure 2. General depiction of total catch accounting in the Shorebased IFQ program.

Under an EM program, the estimation (speciation and weight) for these discard events would be conducted using EM rather than the WCGOP (Figure 2). However some of the discard events and scenarios noted in Figure 1 may not be captured by EM, such as lost gear, crew consuming fish onboard the vessel, using fish caught as bait, and unobserved hauls/sets that had discard (i.e., EM failed to record the discard), therefore; some other source of data may need to be used to

account for the discard activity. In addition, some events may be captured by EM but are difficult to quantify or are rare, such as floating fish on the surface of the water or a fish dropped from the gear. An analysis of these events and the total discard mortality will be conducted to quantify frequency of occurrence, weight, and species conducted to examine the viability of these options for Council consideration.

If these discard events cannot be estimated using EM, then they could be estimated either annually by the WCGOP or not at all. The discard could be estimated using historical observations by the WCGOP for the time period of 2010 to 2014 to get an average number per year or through the annual observations made by WCGOP that are on vessels that do not use EM in combination with vessels that are randomly selected to have a scientific observer while the vessel uses EM.

In addition, rather than accounting for this discard at the individual level (IFQ) it's possible to account for it during the specification process for Annual Catch Limits (ACL), at the sector level or not at all. However this would remove the individual accountability of the IFQ program or not comply with MSA national standards. Assuming that the total mortality estimated at the sector level from this activity is minor amounts and would not affect individual vessels quota share accounts or other fishery participants, the estimated mortality could be deducted from the ACL prior to allocation to each sector or at the sector level to be taken "off-the-top" prior to IFQ distribution and catch allocation distributions.

Potential changes were developed in the following way:

- 1) Discard events were grouped into discard categories 1 and 2;
- 2) Accountability was established (i.e., IFQ, Fleetwide, or not accounted);
- 3) Data source were identified as either EM or the WCGOP.

Three possible options were developed for discard accounting:

Option 1: One discard category and all discards are estimated using EM and counted against IFQ:

- Dumped off deck (e.g., shoveled, picked out of net)
- Dumped/washed out of net for safety reasons (bleeding, pull zipper, etc.).
- Dropped off gear
- Floating fish
- Lost gear (not captured by EM, estimate using WCGOP protocol)
- Consumed/used as bait (not captured by EM)
- Unobserved sets/hauls (not captured by EM, maybe apply discard rate using EM estimates from previous sets/hauls)

Option 2: Split into two discard categories; Category 1 count against IFQ, Category 2 count against sector or ACL; for some discard the estimate is based on trips with observer coverage:

Discard 1 IFQ Accounting:

- Dumped off deck (e.g., shoveled, picked out of net)
- Dumped/washed out of net for safety reasons (bleeding, pull zipper, etc.).
- Unobserved sets/hauls (not captured by EM, apply discard rate using WCGOP)

Discard 2 Sector or ACL accounting:

- Dropped off gear (use WCGOP estimates)
- Floating fish (use WCGOP estimates)
- Estimated from lost gear (estimate using WCGOP protocol)
- Consumed/used as bait (not captured by EM, use WCGOP estimates)

Option 3: Split into two discard categories; Category 1 count against IFQ, no accounting for discard 2 category:

Discard 1 IFQ Accounting:

- Dumped off deck (e.g., shoveled, picked out of net)
- Dumped/washed out of net for safety reasons (bleeding, pull zipper, etc.).
- Unobserved sets/hauls (not captured by EM, apply discard rate using WCGOP)

Discard 2 No accounting:

- Dropped off gear
- Floating fish
- Lost gear
- Consumed/used as bait

Council staff note: In order for option 3 to be valid it would have to comply with the MSA and National Standards. All catch and discard must be accounted to estimate total mortality estimates and ensure annual catch limits are not exceeded.

2.4 - Definitions for Total Catch Accounting - Total Catch, Discard, Retained

See Section 2 of Appendix C of this document.

2.6 - Halibut Retention/Discard with Fishery Specific Options

The Council had specific questions regarding the options for the retention or discard of halibut in each fishery. The GEMPAC developed fishery specific options and took into account the existing regulatory requirements, the current process for viability assessments that are normally conducted by observers, and discard mortality estimations that are applied to each type of gear. IPHC provides the mortality "keys" by fishing gear type that observers use to determine mortality of pacific halibut. The IPHC also determines what mortality rates apply to the different viabilities (Excellent, Poor, Dead for trawl and pot or Minor, Moderate, Severe, Dead for hook and line). The IPHC also has sector specific average mortality rates (i.e., longline and pot). Vessel or sector specific mortality rates based on data from the catch share program could be developed by the WCGOP.

The following gear specific options need to be examined for feasibility and IPHC may need to approve certain options. Council staff and NMFS will work with the IPHC to examine potential changes to halibut mortality assessment methods and the use of sector or vessel specific mortality rates.

For midwater trawl whiting:

Since the fishery is already a maximized retention fishery and all catch is allowed to be retained and landed, all halibut would be considered dead (100% mortality). Current regulations allow fishermen to sort whiting at sea, and if a fishermen chose to do so, would be required to discard halibut. The GEMPAC and GEMTAC believe that sorting at-sea does not occur so only one option was developed for the EM program. If the impact analysis reveals that another option is needed, Council staff will consult the GEMPAC.

For bottom trawl and non-whiting midwater trawl gear:

Option A: Use IPHC mortality rate for specific gear type: 90% mortality if discarded.

Option B: WCGOP scientific observations (assumed 20-30% coverage) is applied to fleet

Option C: IPHC exemption to allow full retention (need to examine the feasibility of this option)

Option D: Captain and crew provide assessment (training would be required)

Option E: Use an appropriate EM viability assessment (currently conducting study, need IPHC approval)

Option F: Use vessel specific viability assessment (update rates periodically)

For Fixed gear:

Option A: Use WCGOP mortality rate for specific gear type: 16% mortality if discarded from longline; 18% mortality rate if discarded from pots.

Option B - Option F: same as bottom trawl and non-whiting midwater trawl gear

2.7 - Discard Species Lists Adjustments

The development of a species discard list for each fishery is a difficult task and changing technology may allow expansion of these lists after their initial creation. Each fishery will likely have a specific species discard lists. In the future, recognition software may be further developed or regulatory actions could provide the option to expand or change the species lists, therefore; a process that is efficient and flexible to change the list should be developed. The GEMPAC identified three options to account for technological changes and to streamline the revision of species discard lists for an EM program:

Option 1: NMFS to make determination and provide list to fishers through the NMFS EM Observer Exemption Process.

Option 2: Use Council process for changing species list using routine management measures if initial list is fully analyzed for environmental impacts (e.g., use groundfish specification process, or some other routine management measure).

Option 3: Set initial lists in regulation and change at some future point through Council process with proposed/final rule making.

2.8.2 - Eligibility for Camera Use

Eligibility criteria would be established in order to use EM. Item 4 in the list was clarified so that civil penalties must not exceed a certain dollar amount *and* timeframe. The phrase now reads as: “Initial eligibility criteria: 4. No civil penalties related to fishing activity exceeding a certain amount and timeframe.”

2.8.5 - EM Vessel Operational Plan - IVMP Expiration

Regarding the expiration of vessel monitoring plans and at the advice of the GEMTAC, the GEMPAC added an option for an expiration date of vessel monitoring plans that is indefinite. For example the monitoring plan could be approved by NMFS for a period of 2 or 3 years rather than no expiration or an annual expiration. The following is now the current list of options:

- Option A – No Expiration unless modifications are made
- Option B – Annual Expiration or if modifications are made
- Option C – Indefinite (ex. 2 or 3 year duration)

2.9.1 - Equipment Requirements

NMFS policy regarding electronic technologies and fishery-dependent data collection “encourages the use of electronic technologies that utilize open source code or standards that facilitate data integration and offer long-term cost savings rather than becoming dependent on proprietary software.” However, the GEMPAC would like to revise the table of alternatives under the category of *EM Equipment Requirements* to clarify that both open source or proprietary software/hardware be allowed if they meet a performance criteria that provides the necessary information to document the discard and transmit the information in a manner that can be used by NMFS to accurately debit quota share accounts.

2.9.2 - Data Transfer Process

The GEMPAC, through advice of the GEMTAC removed enforcement from the potential list of entities that could remove data from a vessel and transfer it to the video reviewer. The GEMTAC thought it would be impractical since it’s unlikely that enforcement officers (state or federal) would be available in a timely manner to collect the information from a vessel or too costly (monetarily and time consuming). Two options were added to the list; vessel operator and third-party contractor (possibly hired by a processor, port, or vessel). Both options seemed viable at this time. The draft list in the table of alternatives is:

(Options are not mutually exclusive)

- Crew
- Catch monitor
- PSMFC
- EM Provider
- Contractor (hired by processor, port, or fisher)
- Vessel operator

2.9.3 - Data Confidentiality (all data collected in the EM system)

The GEMPAC added that all data collected, including access to and authorization for public release of the data, is confidential according to the Magnuson-Stevens Act, NMFS internal confidentiality rules, and any new or revised rules that are proposed at this time (NMFS confidentiality Final Rule will be released in 2014).

2.9.4 - Video and Data Processing/Analysis

The GEMPAC added “Third Party” to the list of potential video reviewers. It’s possible that some other entity may want to provide just video review and analysis of discard events to NMFS. The list of options is now as follows, (not mutually exclusive):

Option A: NMFS

Option B: PSMFC

Option C: EM Provider

Option D: Third Party

2.10.1 - Payment for Scientific Data Collection/Observations

Previous to the IFQ program NMFS provided scientific data collection on roughly 20 percent of the limited entry trawl fleet. This cost was covered by the Government. Under an EM program scientific data collection will be needed from vessels without an observer. It’s estimated that the WCGOP will sample roughly 20-30 percent of the EM fleet however these rates will need to be examined and a sampling scheme developed by NMFS in the future. In addition, a funding source must be identified to support the WCGOP efforts. The GEMPAC developed three options:

Option A: Government funded, same as pre IFQ

Option B: Industry Funded

Option C: Combination of both Government and Industry [Need to consider allocating costs]

2.11 - NMFS Processes

While working through the development of the alternatives and options certain components or portions of the EM program were identified for NMFS to develop. For

example, NMFS will need to set up an internal process to conduct a “type-approval” process that authorizes vessels to use certain EM equipment on a vessel, and set up a process for applicants to submit an “Observer Exemption Application” to request use of EM in lieu of an observer.

A list of NMFS processes are identified here; however it’s expected that some of the development will be done in consultation with the GEMPAC or other technical advisors. In addition, regulations will need to be developed to provide specific guidance to fishermen and EM providers, or observer providers (e.g., fill out applications, make changes to individual vessel monitoring plans, or for compliance with program rules). The development of these processes and associated regulations would likely involve a Council deeming process for the Council to review the draft regulations before they go into the proposed rule stage. Approval from the Office of Management and Budget for the collection of information under the Paperwork Reduction Act (PRA) will be needed when appropriate and are preliminarily identified in the list below. The list may be updated as the decision document is developed and the impact analysis expanded.

- Observer Exemption Process (including an application for fishermen, PRA)
- Individual Vessel Monitoring Plan Approval (including a form for submission to NMFS for review, PRA)
- Equipment Type Approval (including a list of specifications for EM providers to accommodate, PRA)
- Approved EM Provider List (including a list of specific criteria for providers to demonstrate their capability and standards, PRA)
- Eligibility Criteria (Initial and Continued)
- Declaration Process to Use EM (possibly including port hail in/out process, PRA)
- Confidentiality Rules (if different from status quo)
- WCGOP Scientific Observation Sampling Scheme

2.12 - Spatial Variation for High Bycatch Areas

The initial set of alternatives provided three options for spatial management while using EM:

Option A - No special provisions

Option B - Fishing activity in areas that are likely to have lower bycatch could be monitored with EM rather than using observers; no EM in high bycatch areas

Option C - Under this option, if you chose to fish in a high bycatch area, a higher level of EM review may be required

The GEMPAC understand the possible utility of this type of management, however; this type of spatial management may add too much complexity to the management of the IFQ fishery and would require identifying additional management areas which in turn may be difficult and costly to manage.

Therefore, the GEMPAC recommends removal of Option B and C for spatial management options.