



Development of the West Coast Electronic Monitoring Program

Updated March 22, 2018

This document has three parts:

A timeline of the Council's consideration of electronic monitoring (below)

[A text description of Council actions](#)

[Links to materials used in the first Electronic Monitoring Workshop, held in 2013](#)

Council Meeting Dates	Process Considerations	Meeting Information
Summer 2018	Non-whiting midwater trawl and bottom trawl fishery proposed rule is forthcoming and may be available in summer 2018	NA
Spring 2018	The whiting and fixed gear final rule is forthcoming and may be available in the spring of 2018	NA
November 2017	Final action regarding third-party video review and Pacific halibut discard mortality rates for non-whiting midwater trawl and bottom trawl fisheries	November 2017 Council Meeting and Decision Summary
April-June 2017	Further development of non-whiting midwater trawl and bottom trawl impact analysis; development of draft regulations	NA
April 2017	Council receives EFP update, reviews draft regulations and takes final action on non-whiting midwater trawl/bottom trawl fisheries (verify or revise preferred alternatives)	April 2017 Council Meeting (Agenda Item F2), Council Decision Summary and GEMPAC Report
February 2017	Groundfish Electronic Monitoring Policy Advisory Committee (GEMPAC) and Groundfish Electronic Monitoring Technical Advisory Committee (GEMTAC) meeting in Portland, Oregon; review exempted fishing permit (EFP) info, discuss potential changes to the final preferred alternatives and future meeting topics	Meeting information
October 2016	Whiting and fixed gear proposed rule publishes	NMFS Proposed Rule

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April 2016	GEMPAC reviews whiting and fixed gear regulations at Council meeting; Council takes final action on fixed gear (verify final preferred alternative [FPA]); deems whiting and fixed gear regulations (Code of Federal Regulations style)	April Council Meeting (Agenda Item F4), Council Decision Summary and GEMPAC Report
January (webinar) and March 2016	GEMPAC and GEMTAC webinar meetings; discuss draft regulations for whiting fishery; Council receives update on non-whiting EFP activity; Council extends authorization for all electronic monitoring EFPs through 2018	Council Meeting (Agenda Item G7)
November 2015	Council verifies their final preferred alternatives for the whiting fishery	November 2015 Council meeting (Agenda Item I5) and Council Decision Summary
September 2014 through May 2015	EFP development and issuance (spring 2015); commercial installation and testing; EFP informational updates to Council	EFP webpage
September 2014	Selection of final preferred regulatory alternatives.	September 2014 Council meeting (Agenda Item J3)
June 2014	Consideration of full analysis of regulatory alternatives; selection of preliminary preferred regulatory alternatives; final Council approval of EFP (forwarded to NMFS)	June 2014 Council meeting (Agenda Items F2 and F5)
April 2014	Continued development of regulatory alternatives; consideration of EFP for preliminary approval	April 2014 (Agenda Items C1 and C7)
November 2013	Continued development of regulatory alternatives	November 2013 meeting (Agenda Item H8)
September 2013	Initial development of regulatory alternatives	September 2013 Council meeting (Agenda Item G10)
June 2013	Initial scoping and preliminary development of regulatory alternatives	June 2013 Council meeting (Agenda Item F6)
April 2013	Initial scoping and preliminary development of regulatory alternatives	April 2013 Council meeting (Agenda Item D7)

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Text Description of Council Actions, 2011-2017

2011

In 2011, National Marine Fisheries Service (NMFS) implemented a Council-developed catch share program for the West Coast limited entry groundfish trawl fishery (the [trawl catch share program](#)). The program requires that each vessel acquire quota pounds to cover its catch (including discards) of nearly all groundfish species. Exceptions were made for some species that are rarely caught in the trawl groundfish fishery.

Proper functioning of the program requires some form of at-sea monitoring to ensure that discards are enumerated for each vessel. The catch share program specified that this be achieved through 100% [at-sea observer coverage](#). Program participants would be responsible for the full cost of observer coverage, so the industry was interested in finding a less costly way to monitor catch and discards at sea.

Some participants have experienced difficulties in securing observers in a timely or consistent manner, so vessels may prefer the flexibility to turn on an electronic monitoring (or video monitoring) system and leave port immediately instead of waiting for an observer. Such an electronic system would perform the function of monitoring compliance with individual fishing quotas. Therefore, electronic monitoring was explored as a flexible and less expensive substitute for human observers in the catch share program.

2012

In [November](#) (Agenda Item I5), the Council passed a motion to begin the public scoping process for electronic monitoring and to hold a workshop in preparation. The workshop was held in February, 2013 (see the [Electronic Monitoring Workshop webpage](#)) to begin developing the policy for use of electronic monitoring in the trawl catch share program.

In 2012, Pacific States Marine Fisheries Commission (PSMFC) received funds to test the feasibility of using electronic monitoring for catch and discard accounting in the trawl catch share program. The project was meant to address some key questions, including whether video monitoring could be used to effectively track an individual's catch and discards so they could be debited from a

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quota account, and how much such a program would cost the industry compared to human observers. [See the PSMFC electronic monitoring project update](#) for details of the initial plan presented to the Council. For further details, see the [PSMFC website](#).

2013

[In April](#) (Agenda Item D7), the Council decided to continue considering the use of electronic monitoring for the trawl catch share program. The program would focus on monitoring the compliance required for individual accountability of catch and discard, as opposed to biological data collection or other scientific monitoring (such protected species interactions). In April, the Council adopted [regulatory objectives](#) listed in the electronic monitoring workshop report. The Council also reviewed a 2012 [electronic monitoring field study report](#) by PSMFC and approved [recommendations](#) for the 2013 electronic monitoring field study. The studies focused on comparison of video and human observer data on retained and discarded catch.

In May, NMFS released its policy for Electronic Technologies and Fishery Dependent Data Collection. This policy provides guidance on the adoption of electronic technology solutions in fishery-dependent data collection programs (see the [NMFS Electronic Monitoring Policy webpage](#)).

At the [June Council meeting](#) (Agenda Item F6), the Council established two electronic monitoring committees (Groundfish Electronic Monitoring Policy Advisory Committee (GEMPAC) and the Groundfish Electronic Monitoring Technical Advisory Committee (GEMTAC)) to focus on the development of alternatives and options for electronic monitoring use in the trawl catch share program. The Council established a [timeline](#) for considering electronic monitoring, reviewed a [white paper](#) on performance standards for an electronic monitoring program, and received a final [2012 field study report](#) from PSMFC.

In August both GEM Committees met to [further the Council scoping process](#). The GEMPAC developed a draft set of electronic monitoring program alternatives for the Council's consideration in [September 2013](#) (Agenda Item G10). At the same meeting, the Council asked the GEMPAC to continue developing alternatives. Specifically, the Council asked the GEM Committees to discuss a "phased-in" approach for electronic monitoring, starting with midwater trawl and fixed-gear fisheries, with a separate phase for bottom trawl fisheries. The Council also asked the committees to discuss the use of data logger systems, to discuss alternatives for an electronic monitoring program that includes species that may be discarded under maximize retention fisheries, and to explore ways to minimize discards for safety reasons.

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The GEM Committees met again in October to discuss the Council's guidance. The GEMPAC refined the draft alternatives and developed a [report](#) with recommendations for Council consideration in [November 2013](#) (Agenda Item H8). At that meeting, the Council received a [draft set of alternatives](#) for an electronic monitoring program, and decided to revise the alternatives with the modifications recommended by the [Enforcement Consultants](#) and to move forward with further analysis. The Council also scheduled consideration of special, out-of-cycle exempted fishing permit (EFP) proposals for electronic monitoring, with maximized retention requirements. The Council sent a [letter to the industry](#) announcing that it would accept EFP applications at the April 2013 meeting and provided guidance for their development. At the GEMPAC meeting in March, applicants received feedback for refinement of their EFP applications prior to submission to the Council.

2014

In [April, 2014](#) (Agenda Items C1 and C7) the Council heard an update on the PSMFC study (Agenda Item C1), received a new draft analysis of alternatives, and reviewed EFP applications (Agenda Item C7). The Council preliminarily approved EFPs and provided guidance to the applicants for refinement. The Council asked that applicants consider resubmitting applications in June with the following additions:

1. Regarding the Leipzig EFP application – limit the number of vessels and require up to 100 percent observer coverage;
2. Regarding the California Risk Pool application – limit the number of vessels and require up to 100 percent observer coverage on the bottom trawl vessels;
3. Regarding the Eder et al. application – limit the number of vessels.

The Council also requested that the EFPs address how the halibut viability assessments could be conducted without the presence of a human observer, with the intention that halibut retention not be permitted.

On May 7 and 8, 2014 the GEM Committees met to discuss initial electronic monitoring program alternatives and options adopted by the Council for analysis. The GEMPAC [revised and added some options for further analysis](#). These recommendations were added to the analysis for further Council consideration.

In [June](#) (Agenda Items F2 and F5), the Council reviewed the [draft analysis](#) of the alternatives and options and [decided to modify](#) some of the regulatory options.

Also in June, the Council received four revised [EFPs](#) and recommended that NMFS implement them for the whiting midwater trawl, non-whiting midwater trawl, fixed gear, and bottom trawl

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fisheries in 2015 and 2016. Specifically, the Council recommended the electronic monitoring EFPs be issued to test electronic monitoring in the fisheries on in limited capacity with [some additional permit conditions](#).

In [September 2014](#) (Agenda Item J3) the Council reviewed the [draft analysis](#) for regulatory development of the electronic monitoring program. It included the new options added by the Council in June. The Council also reviewed the [GEMPAC Report](#) and other [advisory body reports](#) picked its [final preferred alternatives](#) for an electronic monitoring program for all groundfish fisheries operating under the trawl catch shares program, contingent on scheduled review before final rule implementation.

The Council provided guidance to NMFS regarding preservation of the IFQ Program goals and the development of performance standards when considering regulations for an electronic monitoring program.

To preserve the conservation and accountability aspects of the IFQ Program, the electronic monitoring program must accurately capture discard events (i.e., whether discard has occurred), amount of discard (i.e., volume in weight and size of individual fish), disposition of discard (i.e., consider providing survivability credit for released fish, such as halibut), and rare events (e.g., catch and discard of rebuilding rockfish, by species).

In developing performance standards and accountability measures, the Council recommended NMFS consider the economic incentives to misreport or underreport catches and mortalities of overfished rockfish and Pacific halibut.

Individual accountability in the fisheries will hold only so far as monitoring programs are able to counteract these incentives. As such, having adequate enforcement to ensure compliance with the electronic monitoring program with strong consequences in place for violations are keys to success.

The preferred alternatives and options were tested using the EFPs. Testing began in the spring of 2015 and continued through 2018.

2015

[An initial report, cost analysis, and draft regulations](#) for an electronic monitoring program for the whiting midwater trawl fishery was presented to the Council in November. At the meeting, the Council verified their final preferred alternatives for the whiting fishery (see the [Council Decision Summary](#)). The Council's intent was to have regulations applicable fleet-wide in place by the 2017 season (May 15, 2017 or earlier).

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Also in November, the Council was updated on potential implementation of an electronic monitoring program for the IFQ fixed gear fleet along with the whiting fishery electronic monitoring program. The Council asked the GEMPAC and GEMTAC to review regulations for the whiting and fixed gear fisheries over the winter. They also scheduled verification of the Council's final preferred alternatives (FPAs) for the fixed gear fleet and deeming of the draft regulations for both whiting and fixed gear electronic monitoring programs for April 2016.

2016

[In March](#), the Council received an EFP update regarding the IFQ fixed gear and bottom trawl EFP activity.

The Council extended the expiration date of the electronic monitoring EFPs for the bottom trawl, non-whiting mid-water trawl, whiting mid-water trawl, and fixed gear catch share fisheries through 2018. However, it also clarified its intent that the EFPs cease when fleet-wide regulations are implemented. Fleet-wide regulations for whiting midwater trawl fisheries and fixed gear fisheries are expected spring of 2018, but fleet-wide regulations for bottom trawl and non-whiting mid-water trawl fisheries are not expected to be implemented in late 2018.

[In April](#), the Council modified their FPA for electronic monitoring for the fixed gear fishery:

1. Individual Vessel Monitoring Plan expiration was changed from 1 year to no expiration;
2. Declaration of electronic monitoring use was changed from annual declaration to no limit on frequency – declaration stands until changed;
3. Data Transfer Process removed shoreside monitor and retained only vessel operator and crew;
4. Video and data processing was clarified that the Pacific States Marine Fisheries Commission should be eligible to be a 3rd-party video reviewer.

The Council also recommended the following changes based on recommendations in the [GEMPAC report](#):

1. Remove references to particular modes of communication (i.e., email).
2. Discuss in the preamble of the proposed rule NMFS standards for electronic monitoring providers to provide free litigation support to NMFS.
3. Include a one-page electronic monitoring application process for existing electronic monitoring participants to reduce the paperwork burden for the industry.
4. Include a general statement in the regulations that would require electronic monitoring providers to comply with state and Federal warranty statutes.

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Regarding record retention requirements in the draft regulations, the Council recommended maintaining the proposed three-year record retention requirement but specified that this requirement be reviewed prior to transitioning to third-party video reviewers to reduce the duration period for electronic monitoring providers to retain records.

Finally, the Council [deemed the draft regulations](#) as meeting the intent of the whiting final preferred alternative (see [November 2015 Decision Summary](#) for Whiting Electronic Monitoring final preferred alternatives) and for the fixed gear fishery with the expectation that NMFS would incorporate the final preferred alternatives and additional recommendations by the Council. The [NMFS's proposed rule for whiting and fixed gear fisheries](#) was available on Oct 6, 2016. A final rule is forthcoming.

2017

The GEMPAC and GEMTAC met via webinar on [February 22](#) and in person on April 6, to discuss final recommendations for an electronic monitoring program for the non-whiting midwater trawl fishery for rockfish, and the bottom trawl fishery. The GEMPAC revised its preferred alternatives it selected in September 2014, and provided [their report](#) to the Council at the April meeting in Sacramento, CA.

At the [April Council meeting](#), the Council received an EFP update, reviewed [draft regulations](#) and reports from the [GEMPAC](#), [California Dept. of Fish and Wildlife](#), [Groundfish Advisory Subpanel](#), [Groundfish Management Team](#), and [Enforcement Consultants](#), and received [public comment](#). At the meeting, the Council finalized their preferred alternative and options and provided recommendations and guidance to NMFS on implementing an electronic monitoring program for the non-whiting midwater trawl and bottom trawl fisheries. The Council's decision document and final recommendations can be found here: [Council Decision Summary](#).

In April the Council also asked NMFS to examine the feasibility of using PSMFC a sole provider for the industry to conduct the video reviews and to develop new discard mortality rates for halibut when vessels use EM. In September 2017, NMFS determined that NMFS cannot designate any service provider as a sole provider; however, PSMFC would be eligible to compete for contracts as a third-party video provider for the industry or act on behalf of NMFS to audit or track compliance of third-party video review providers, but the agency could not do both at the same time ([NMFS Report](#)).

In November 2017, the Council adopted Pacific halibut discard mortality rates (DMR) for the bottom trawl and non-whiting midwater trawl fisheries that use EM. The modeled mortality rates as described below will be applied in 2018. All vessels will be required to use best

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handling practices when discarding for the modeled rate to be applied, otherwise a default rate of 90 percent would be applied.

For Bottom Trawl Fishery:

- If an observer is not present to assess the viability of all halibut, implement a DMR rate for each halibut discarded under EM using time on deck as described in the GMT model under Agenda Item F.11.a, [GMT Report 1](#).

For the non-whiting midwater trawl fishery, the following will be applied:

- When a vessel declares optimized retention, a default rate of 90 percent will be applied to all halibut that are discarded.
- When a vessel declares maximized retention, the halibut must be landed and a DMR of 100 percent will be applied.

The Council also recommended that a species be added or removed from the allowable discard species list under an inseason action during one Council meeting and vessel monitoring plans be updated to reflect the change. A proposed rule to implement the electronic monitoring program elements for the bottom trawl and non-whiting midwater trawl fisheries is planned for summer, 2018.

Finally, the Council asked the Executive Director to explore opportunities to create a designated funding mechanism for electronic monitoring to help offset the cost of electronic monitoring, similar to that used by the North Pacific Fishery Management Council as authorized in Section 314 of the Magnuson-Stevens Act.

In 2018, NMFS and the Council's Groundfish Electronic Monitoring Policy and Technical Advisory Committees will begin developing draft business rules to implement third-party video review. This includes examining the level of video review necessary to audit logbooks and to audit video review providers, as well as the decision points for increasing and decreasing the level of video review based on compliance and other factors.

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Electronic Monitoring Workshop Materials, February 2013

The following are the materials distributed from the Council workshop on electronic monitoring for vessels participating in the groundfish trawl catch share program. [Download them all as one file.](#)

Workshop Agenda Item	Attachment	Title
Download all attachments as one file		
A.2	Attachment 1 – Terms of Reference	Terms of Reference for the Pacific Council Workshop on Electronic Monitoring for Vessels Participating in the Groundfish Trawl Catch Share Program
A.2	Attachment 2 – Workshop Agenda	Proposed agenda, Electronic Monitoring Workshop
B.1	Attachment 1 –Cameras for Whiting	Electronic Monitoring in the Shore-Side Hake Fishery 2004 to 2010
B.2.a	Attachment 1 – FMA Project	National Fish and Wildlife Grants, to the Fishermen's Marketing Association
B.2.b	Attachment 1 – Fixed Gear Vessels – Morro Bay	Electronic Monitoring Pilot Study Report for West Coast Groundfish Trawl ITQ Program
B.2.b	Attachment 2 – Cap Log Report	Introduction to Economic Model and Summary of Monitoring Concepts for the West Coast Groundfish FIO Program
B.2.c	Attachment 1 – Sea State Project	Sea State, February 13, 2013, EM Workshop Presentation Description
B.2.d	Attachment 1 – PSMFC Project 2013	PSMFC Project – 2012 Season Results
B.3	Attachment 1 – EM in Alaska	Electronic Monitoring in Alaska – Synopsis for Agenda Item B.3
B.4	Supplemental Attachment 1 – NER Pilot	Northeast Region Pilot Program (Melissa Hooper)
C.1	Attachment 1 – Strawmen P&N, G&O	Electronic Monitoring – Background, Purpose and Need, Goals and Objectives

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D.1.a	Attachment 1 – Preliminary Feasibility Matrix – NWFSC	Preliminary Thoughts on Observer Functions and the Corresponding Abilities of Electronic Monitoring (Northwest Fishery Science Center (NWFSC) Response)
D.1.b&c	Attachment 1 – Preliminary Feasibility Matrix – NW OLE, NOAA GCEL, and NWR	Preliminary Thoughts on Observer Functions and the Corresponding Abilities of Electronic Monitoring (Northwest Division Office of Law Enforcement(NW OLE), NOAA General Counsel Enforcement Litigation (NOAA GCEL), and Northwest Region (NWR))
D.1.c	Supplemental Attachment 2 – NOAA GCEL	Legal and Enforcement Considerations
D.2.a	Attachment 1 – EM Strawmen	Electric Monitoring Strawmen for Consideration
D.2.a	Attachment 2 – Compliance Incentives	Creating an Incentive Based Environment for Good Behavior Consideration of a Cooperative Agreement Program for Furthering Electronic Monitoring Compliance
E.1	Attachment 1 – PSMFC Rare Events	Pacific States Field Study – Detection of Rare Events
E.2	Attachment 1 – PSMFC 2013 Design	Pacific States Field Study –2013 Study Design
F	Attachment 1 – Draft Calendar	DRAFT Possible Regulation Amendment Process for Consideration of Electronic Monitoring
Back-Ground	Background – CCC EM Agenda and NMFS Whitepapers	Electronic Monitoring Annotated Agenda CCC Meeting – February 21, 2013 Silver Spring, MD [also includes whitepapers]
Back-Ground	Background – Tech Paper – Est Wt and Species	ESTIMATING WEIGHT AND IDENTIFYING SPECIES THROUGH ELECTRONIC MONITORING (EM): A PRELIMINARY COMPARISON OF ELECTRONIC AND OBSERVER-BASED REPORTING
Back-Ground	Background – Fisheries Monitoring Road Map	Cover letter and Fisheries Monitoring Roadmap
Back-Ground	Supplemental Background – News Article – Fishery Recovery	Press Democrat: Feds see early signs of Pacific fishery recovery
Back-Ground	Supplemental Background – DRAFT EA Implementing Amendment 10	A MAXIMIZED RETENTION AND MONITORING PROGRAM FOR THE PACIFIC WHITING SHORESIDE FISHERY IMPLEMENTING AMENDMENT 10 TO THE PACIFIC COAST GROUND FISH FISHERY

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MANAGEMENT PLAN
DRAFT ENVIRONMENTAL ASSESSMENT

Presentations

PowerPoint Title	Presented By
Agenda Item B.1: Electronic Monitoring in the Shore-Side Hake Fishery 2004 to 2010	Howard McElderry
Agenda Item B.2.a: Summary of National Fish and Wildlife Foundation Grants to the FMA	Pete Leipzig
Agenda Item B.2.b: Electronic Monitoring Pilot Studies on Fixed Gear Vessels in Central California	Michael Bell – Senior Project Director, The Nature Conservancy
Agenda Item B.2.c: Overview of NFWF Grant to Develop Video Monitoring for Full-Retention Fisheries	Karl Haflinger, Sea State Inc., and Eric Torgerson, Finsight
Agenda Item B.2.d: 2012 EM Season Results Pacific States Marine Fisheries Commission	Dave Colpo
Agenda Item B.3: Monitoring Technology in Alaska	Farron Wallace
Agenda Item B.4: Northeast Region Pilot Program	Melissa Hooper
Agenda Item D.1.b: Electronic Monitoring – Management Compliance Requirements	Colby Brady
Agenda Item D.1.c: Vessel Based Electronic Monitoring Feasibility Evaluation: Enforcement	Dayna Matthews
Agenda Items E.1 & E.2: Electronic Monitoring Workshop, Pacific States Marine Fisheries Commission Field Study	Dave Colpo

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