

NATIONAL MARINE FISHERIES SERVICE UPDATE ON  
 VESSEL MOVEMENT MONITORING ACTION

In April 2016, the Pacific Fishery Management Council (Council) took final action to adjust management measures related to vessel movement monitoring, including changes to provisions for monitoring restricted areas with vessel monitoring systems (VMS), fishery declarations enhancements, and movement of individual fishing quota (IFQ) fish pot gear across management lines.

The National Marine Fisheries Service (NMFS) recently revisited the Council’s recommendations for this action, and identified a number of concerns about implementation and consistency with the Pacific Coast Groundfish Fishery Management Plan (FMP) and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). We seek Council feedback on how to address these concerns, and how to proceed with the rulemaking for this action.

**Overview of items in the VMM action**

The VMM [Agenda Item D.2](#) was available in the April 2016 briefing book at the time the Council took final action. The alternatives are described in further detail in [Agenda Item D.2 Attachment 1](#). The Council’s final preferred alternatives are described in the [April 2016 Decision Document](#). Table 1 describes the Council’s final preferred alternatives for this action, the expected number of vessels affected under each alternative, and any relevant FMP consistency or implementation concerns.

**Table 1. Council final preferred alternatives for the Vessel Movement and Monitoring Action.**

Management Measure	Preferred Alternative	Description	Affected Entities (see Appendix 1)	FMP consistency or Implementation Concern
1 -VMS Changes for non-groundfish trawl and other groundfish fisheries	1a	Increase ping rate to four times per hour with NMFS type-approved units	834 vessels	No concerns with increasing ping rate to four times per hour. Concerned with complexity created by exempting midwater trawl whiting vessels from this requirement, given recent changes implemented in trawl gear rule that allow vessels to transit and fish with multiple trawl gear types on one trip.
1 -VMS Changes for non-groundfish trawl and other groundfish fisheries	1b	Maintain ping rate of one per hour with Electronic Monitoring (EM) with NMFS type-approved units	46 vessels	Vessels can elect to use EM on a trip-by-trip basis. We are concerned vessel operators will forget to adjust ping rates or VMS declaration report on a trip by trip basis, increasing enforcement burden.

<b>Management Measure</b>	<b>Preferred Alternative</b>	<b>Description</b>	<b>Affected Entities</b> (see Appendix 1)	<b>FMP consistency or Implementation Concern</b>
1 - VMS changes for non-groundfish trawl and other groundfish fisheries	2	Allow the use of enhanced [non type- approved] VMS units	834+ vessels	In addition to concerns about program costs and feasibility, we determined that we would need to establish redundant infrastructure to accommodate both type-approved and non type-approved units. Conflicts with National Standard 7 - <i>Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.</i>
2 - Fishery Declaration Enhancements (Whiting Fishery Declaration Changes)	1	Allow midwater trawl vessels to change their whiting fishery declaration while at-sea. Other restrictions for fishery declaration reporting would remain in place.	175 limited entry trawl vessels	None
2 - Fishery Declaration Enhancements (Gear Testing)	2	Set up formal exemption process to allow only groundfish trawl vessels to be exempt from observer coverage for a trip that tests gear	variable	None
3 - Movement of IFQ Fishpot Gear Across Management Lines	2	Allow IFQ fixed gear vessels to move pot gear from one management area to another management area during a single trip then deploy the gear baited	15 vessels in 2018	None
3 - Movement of IFQ Fishpot Gear Across Management Lines	3	Allow IFQ fixed gear vessels to move pot gear from one management area to another management area during a single trip then deploy gear non-baited	15 vessels in 2018	None

**Discussion of FMP consistency and implementation challenges**

This section will focus on the FMP and Magnuson-Stevens Act consistency and implementation challenges identified in Table 1 for alternatives 1a, 1b, and 2 under Management Measure 1. We provide recommendations for addressing our concerns, and discuss whether additional Council action is necessary. This report will not include further discussion on management measures that have no identified FMP consistency or implementation concerns in Table 1.

Management Measure 1, Alternative 1a: Increase ping rate to four times per hour with NMFS type-approved units

NMFS has no FMP consistency concern with the Council's recommendation to increase the ping rate to four times per hour for NMFS type-approved VMS units. Since the Council selected final preferred alternative on this action in April 2016, Council discussions on Amendment 28 to the Pacific Coast Groundfish Fishery Management Plan reinforced the need for increasing vessel positioning frequency above status quo (1 time per hour) to monitor the recommended revised Essential Fish Habitat Conservation Areas (EFHCAs). However, the Council may wish to reconsider the economic impacts of increasing the ping rate to four times per hour, given our FMP consistency concerns with Management Measure 1, Alternative 2 (allowing the use of non-type approved vessel location units).

NMFS Office of Law Enforcement (OLE) is considering allowing the use of limited store and forward position reporting using type-approved VMS units. The increased cost in increasing vessel ping rates is primarily due to increasing the number of data transmissions from one to four per hour. Limited store and forward position reporting would sample vessel positions four times per hour, store the vessel positions, and only transmit the four vessel positions a single time per hour. This may reduce some of the financial impact if multiple positions can be collected in a single hour, but are only transmitted once per hour.

We are concerned with exempting vessels that fish with midwater trawl gear from the increased ping rate requirement. The Council's initial action was focused on monitoring trawl and non-trawl vessels that maintain continuous transit through the Rockfish Conservation Areas (RCA). The Council's preferred alternative exempted midwater trawl vessels from the increased ping rate requirement because midwater trawl vessels are permitted to fish inside the RCAs during the primary whiting season and in EFHCAs. However, the changes NMFS recently implemented in the trawl gear rule ([83 FR 62269, December 3, 2019](#)) allow vessels to have any type of groundfish bottom trawl (small or large footrope) or midwater trawl gear onboard simultaneously, and to fish with multiple gear types on the same trip in certain areas. It is possible, but administratively difficult, to change the ping rate between trips. We are concerned that vessel operators will forget to do so, resulting in compliance issues and increased enforcement burden. High rates of non-compliance would greatly reduce the effectiveness of the increased ping rate requirement. We have observed similar issues with vessel operators forgetting to change declarations. It also may not be possible to change the ping rate on a single trip, when a vessel switches between using bottom and midwater trawl gear at sea. For these reasons, NMFS recommends that ping rate requirements should be the same for all limited entry trawl vessels.

Management Measure 1, Alternative 1b: Maintain ping rate of one per hour with EM with NMFS type-approved units

NMFS is concerned that it will be difficult to enforce an exemption for vessels fishing with EM from a ping rate requirement that applies to vessels on non-EM trips. Vessels can elect to use EM on a trip-by-trip basis. As discussed above, we are concerned that vessel operators will forget to

change their ping rate between trips, resulting in non-compliance and increased enforcement burden. For this reason, NMFS does not support exempting limited entry trawl vessels fishing on EM trips from this requirement.

*NMFS recommendation regarding Management Measure 1, Alternatives 1a and 1b:*

- We recommend the Council reevaluate its recommendation to increase the ping rate to four per hour in light of FMP consistency concerns identified for Management Measure 1, Alternative 2 (below).
- We recommend the Council apply the same ping rate requirement to all limited entry trawl vessels, regardless of the gear or monitoring type. This may require additional Council action.

Management Measure 1, Alternative 2: Allow the use of enhanced [non type-approved] VMS units

NMFS has both FMP/Magnuson-Stevens Act and implementation concerns with allowing the use of non type-approved VMS units.

As described in the VMM Scoping Document (Agenda Item D.2 Attachment 1), these units would not be NMFS type-approved units, but would need to meet reporting standards of NMFS (e.g., type and frequency of data collected, form of transmittal, ruggedized, and an encrypted format). At the time of decision-making, it was understood that NMFS would work with the Pacific States Marine Fisheries Commission (PSMFC) to collect the data. The VMS vendor of the non type-approved unit would send the data directly to PSMFC for data storage and future access. The unit and operating costs for a non type-approved VMS unit are expected to be lower than for type-approved units for vessel owners (see Appendix 2). However, approving an action that would allow fishery participants to use a non type-approved unit requires the NMFS West Coast Region Sustainable Fisheries Division to develop and administer its own VMS program in addition to the program that NMFS OLE administers at a national level. For the non type-approved units to meet OLE's needs for enforcement, program requirements would be virtually identical to the already well-established regulations of the type-approved VMS program.

NMFS OLE identified a number of implementation challenges in creating a non type-approved VMS program for the West Coast Region. Although it is not infeasible to develop the program, the implementation challenges are significant enough that they outweigh the benefits of creating a program specific to our region. These implementation challenges include:

- Litigation support - In the event VMS data is being admitted as evidence in a court of law, VMS type-approval holders agree to provide technical and expert support for litigation related to their equipment. A non type-approved system may or may not provide the same level of litigation support.
- Data custody/management - All data collected must be collected and managed in accordance with the requirements specified in Section 401 and 402 of the Magnuson-Stevens Act. VMS position data is currently provided by a single source: NMFS OLE. The addition of a non type-approved system will require careful management to ensure data from type-approved and non type-approved are handled in a manner consistent with the Magnuson-Stevens Act, and not inadvertently released without proper approval. Any requests for position data will require review for release by both OLE for type-approved VMS data and by SFD or PSMFC for non type-approved positional data.
- System monitoring - We would need to overcome technical challenges to combine position data from both type-approved and non type-approved sources. Each data source must be clearly labeled and stored for sufficient time to allow for the display and analysis of

position data. OLE's vTrack system has the technical capability to accept and display the data. However, NMFS OLE has concerns regarding the source and security of non type-approved data and has not developed timelines for how long non-type approved would need to be stored and available in the vTrack system (e.g., VMS data is currently stored for 10 years). We considered developing alternative systems similar to vTrack that would be accessed through PSMFC. While we have not developed or tested such a system, the alternative system would need to address the same challenges outlined above for vTrack, as well as allow for multiple simultaneous users and generate alerts for specific activities (e.g., transiting through a no fishing zone at slow speed).

Establishing a non type-approved VMS program would require staff and funding that the NMFS WCR does not currently have. Even if funding were available, developing a redundant VMS program may not be the most responsible use of those funds.

In light of these issues, NMFS is concerned that allowing non type-approved VMS units conflicts with National Standard 7, which states that conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication. Management measures should not impose unnecessary burdens on the economy, on individuals, on private or public organizations, or on Federal, state, or local governments (see 50 CFR 600.340). Factors such as fuel costs, enforcement costs, or the burdens of collecting data may well suggest a preferred alternative. The supporting analyses of the recommended conservation and management measures should demonstrate that the benefits of fishery regulation are real and substantial relative to the added research, administrative, and enforcement costs, as well as costs to the industry of compliance.

NMFS OLE is researching whether the requirements for type-approved units could be modified to provide some of the same cost savings that were appealing about the non-type-approved units (e.g., limited store and forward position reporting) and will have more information at the April meeting.

*NMFS recommendation regarding Management Measure 1, Alternative 2:*

- We recommend the Council reevaluate its recommendation to allow vessels to use enhanced [non type-approved] VMS units, and select no action.
- The Council may wish to reevaluate its recommendation of Management Measure 1, Alternative 1a to increase the ping rate to four per hour in light of FMP consistency concerns identified for Management Measure 1, Alternative 2.

## **Conclusion and next steps**

We appreciate the effort the Council put into developing this action, and are mindful that the suite of alternatives in this action both increase our ability to enforce and monitor important management areas, and provide additional flexibility for industry. To finalize this important action, we recommend that the Council:

- *Reconsider its recommendation on alternatives 1a, 1b, and 2 under Management Measure 1 at a later Council meeting.* This will require additional Council staff time if the Council wishes to consider additional alternatives for ping rate requirements. The initial action only fully evaluated the status quo rate of one ping per hour, and the higher rate of four pings per hour. The Council briefly considered 2 or 3 pings per hour, but rejected those alternatives from further analysis because the ping rates may not be frequent enough to provide information to enforce small closed areas, or provide enough information to calculate a vessel's course for enforcement of continuous transit requirements (see p. 19 of the [April 2016 Decision Document](#)).

- *Recommend that NMFS move forward immediately with a rulemaking to implement the remaining measures in this action.* The remaining alternatives may provide some benefit to industry during the 2019 fishing year, even if implemented late in the year. Our rulemaking schedule outlines a schedule for a proposed rule in May 2019, and a final rule in August 2019. Effective dates will depend on the suite of measures we include in the rulemaking and whether further Council action is needed.
- *Coordinate with other Councils to ask HQ OLE to investigate type-approving a variety of VMS units.* Several other regions are considering lower cost, high capability vessel location units, in particular those that would allow us to collect vessel position information from smaller vessels in the fleet. The Council could raise this issue at an upcoming Council Coordinating Committee meeting.
- *Petition vendors that produce alternative VMS units to seek type approval* - New VMS vendors can apply for type-approval at any time, but must meet the national program requirements. Pacific States Marine Fisheries Commission is already conducting this research to support state-level interest in vessel locator system for the Dungeness crab fishery, and is working to coordinate requirements with the federal system.

### Appendix 1: Vessels subject increased ping rate requirement

Requirement applies to all vessels currently required to have VMS, including: salmon troll, California halibut, ridgeback prawn, and sea cucumber trawl, but **excluding mid-water trawl, pink shrimp trawl, and swordfish DGN**. This table describes the estimated number of vessels that would be required to have VMS based on declarations from 2018 for each fishery.

Fishery	Number of vessels with VMS that declared participation, 2018
Open access California gillnet complex gear	6
Open access prawn trap or pot gear	7
Open access California halibut line gear	17
Open access Pacific halibut longline gear	61
Open access salmon troll gear	139
Non-groundfish trawl gear for sea cucumber	1
Non-groundfish trawl gear for California halibut	3
Non-groundfish trawl gear for ridgeback prawn	4
Open access line gear for groundfish	108
Open access groundfish trap or pot gear	112
Open access longline gear for groundfish	116
Open access sheephead trap or pot gear	5
Open access Pacific halibut longline gear	61
LE bottom trawl, shorebased IFQ, not including demersal trawl	49
LE midwater trawl gear, non-whiting shorebased IFQ	22
LE fixed gear, not including shorebased IFQ	108
LE groundfish non-trawl, shorebased IFQ	15
<b>Estimated number of vessels subject to this rule</b>	<b>834</b>

**Appendix 2: System comparison**

	<b>Notes</b>	<b>Type-approved VMS units</b>	<b>Proposed Alternative Units</b>
<b>Unit cost</b>		<ul style="list-style-type: none"> <li>• \$2600-\$2700 without messaging capabilities</li> <li>• \$3000-\$3400 with messaging capabilities</li> </ul>	~\$1000
<b>Monthly operating costs with 1 position per hour</b>		\$50 (\$37 to \$65 range)	N/A
<b>Monthly operating costs with 4 (or more) positions per hour</b>	Additional cost for type approved is because of real-time transmission	\$105 (\$69 to \$150 range)	\$50 (minimum of every 5 minutes)
<b>Reimbursement</b>		May be for unit Not available for transmission costs	Not available for unit or transmission costs
<b>Messaging capabilities</b>		Required for approved units	Not required
<b>Data latency</b>	Concern for our data partners, including Department of Homeland Security	Transmitted real-time Bundled transmissions may be allowed	Bundled satellite-based transmission one time per hour
<b>Declarations</b>		Independent from position reports, call in to VMS program	Independent from position reports, call in to VMS program
<b>Data integrity</b>		<ul style="list-style-type: none"> <li>• Litigation support provided free of charge</li> <li>• Encrypted data transmitted directly from provider to OLE</li> </ul>	<ul style="list-style-type: none"> <li>• NMFS intends to require provide litigation support</li> <li>• data transmitted from providers to PSMFC</li> </ul>