

VESSEL MOVEMENT MONITORING INFORMATIONAL REPORT

Under the omnibus prioritization agenda item at the September 2014 Council meeting, a number of issues were aggregated with the ongoing vessel monitoring system (VMS) issue into a vessel movement monitoring (VMM) grouping, to be addressed as an enforcement agenda item at future meetings, as opposed to under a particular or multiple fishery management plans (FMPs). The Enforcement Consultants (EC) volunteered to lead an effort to develop a range of alternatives related to vessel transit monitoring and report back to the Council with a proposed process and timeline. This issue is not on the November 2014 Council meeting agenda, but the EC will take the opportunity at this meeting to work with advisory bodies to discuss this informational report, towards a goal of developing a range of alternatives that would be presented for Council consideration at its April 2014 meeting.

The EC is initially proposing the following schedule for moving ahead on this issue.

April 2015	Council adopts purpose and need statements and a range of alternatives for analysis
May-July 2015	National Environmental Policy Act (NEPA) scoping, National Marine Fisheries Service (NMFS) develops analysis.
September 2015	Council adopts final preferred alternative

The following topics are addressed in this informational report.

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Monitoring for Continuous Transit in the Groundfish Fishery

Previously: 39. Trawl and Non-Trawl - Increase VMS Ping Rates (Continuous Transit Enforcement)

Monitoring

Over the past year, both the National Oceanic and Atmospheric Administration Fisheries Office of Law Enforcement (OLE) and the EC have briefed and made comments and recommendations to this Council on the adverse ruling by Chief Administrative Law Judge Susan L. Biro in the administrative penalty case of the F/V Risa Lynn (NOAA Case. No. SW1002974). This Magnuson Act case involved a single charge of operating a vessel in a closed area for purposes other than continuous transit, as required by the West Coast Groundfish Fishery (WCGF) regulations.

This case was notable in that the issues for litigation were narrowed down to whether the vessel monitoring system (VMS) provided sufficient evidence of the vessel's activity. The administrative law judge (ALJ) determined that the hourly VMS position report evidence in the case was insufficient to prove that the vessel was not operating in "continuous transit" through the closed area, as required by regulation.

This case was notable in that the primary issue for litigation was whether the VMS provided sufficient evidence of the vessel's activity in the closed area. The ALJ determined that, inter alia, the hourly VMS position report evidence in the case was insufficient to prove that the vessel was not operating in continuous transit through the closed area as required by WCGF regulation. Additionally, the ALJ agreed with the assertion that under certain maritime conditions (e.g., wind, swell, current), it might be impossible for a vessel to comply with the WCGF regulatory definition of "continuous transiting" due to its requirement for vessels to stay on a "constant heading, along a continuous straight line course."

United States Coast Guard (USCG), OLE, and its state enforcement partners have a problem. We cannot enforce the continuous transit requirement using VMS with a 60-minute ping rate. What is needed to effectively enforce the continuous transit requirement is a data stream that demonstrates that the vessel has stopped or has reduced speed to such at point that, absent a plausible explanation, it can be concluded that the vessel has failed to maintain continuous transit.

Suggested remedies:

Increase the VMS ping rate. A cost analysis for existing West Coast-type approved VMS units has been completed (Attachment 1).

OR

Maintain the 60-minute ping rate with availability of additional data set:

Potential options for additional data sets.

1. VMS units, both typed approved and not approved, with capabilities to transmit additional positional reports via cell tower and/or WiFi—reduces transmission costs.

2. VMS units, both typed approved and not approved with capabilities for geo fencing coupled with automated ping rate increase.
3. Data loggers with capabilities to store and transmit positional reports and possibly sensory data via cell tower and/or WiFi.
4. Use existing vessel technology, i.e. chart plotter, e-log book, or other systems, with accompanying submission requirements. Key component consideration: independently obtained data not requiring human input.
5. EM systems technology. Example: EFP EM systems.
6. Other?

Continuous Transit Definition

To address the continuous transit definition GCES has developed a new definition which has been modified to address a highly migratory species (HMS) application for inclusion in the proposed Drift Gillnet Rule which just completed the public comment phase and is moving towards final adoption. The groundfish version of this draft definition is:

REVISED DEFINITION:

Continuous transiting or transit through means that a vessel crosses a groundfish conservation area or EFH conservation area on a heading as nearly as practicable to a direct route, consistent with navigational safety, while maintaining [expeditious] headway throughout the transit without loitering or unnecessary delay.

SUPPORTING PREAMBLE LANGUAGE:

NMFS is revising the current definition of “continuous transiting or transit through” in order to encompass a broader array of vessel activity that is akin to loitering within a closed area, whether that be by means of a source of power or by drifting with the prevailing water current or weather conditions. [Under this revised definition, visual, electronic, or other evidence of vessel activity should provide information on vessel speed and course sufficient to indicate expeditious transiting of a conservation area.]

This definition is an amalgam of some USCG regulations, SE fishery regulations, and lessons learned from the RISA LYNN litigation. Note, the preamble language is another way for NMFS to clarify the issue, should the matter be litigated again.

Fishery Declaration Enhancements (Gear Stowed, Testing Gear, and Changing an MS Fishery Declaration)

Previously: 43. Trawl IFQ (& MS & CP?) - Fishery Declaration Enhancements (With Gear Stowed and Testing Gear)

The Council is interested in evaluating changes to VMS declarations for transiting with gear stowed, and for trips testing trawl gear (no retention of any kind). As proposed, trips with these declarations would not require observer coverage.

Transiting with Gear Stowed

For clarification, it is currently lawful to transit state and Federal with gear stowed if the vessel does not engage in fishing while in transit. Definition of fishing per MSA: **Magnuson at 99-595, 101-627. See (15) Fishing means (D) any operation in support of . . . or preparation of.**

OLE and its state partners do not believe the mere act of transiting from one port to the next constitutes “operation in support . . . or preparation of.” Thus we do not believe the transiting issue needs further action.

Testing Gear

Alternatively, gear testing does fall under the definition of fishing and will require an additional declaration code (trawl gear testing) and changes to the observer regulations, exempting this activity from observer coverage.

For purposes of analysis, the EC seeks clarification that what is being discussed regarding “gear testing” is that gear tests means deployment of lawful trawl gear with an open cod end with no retention of any kind.

Changing an MS Fishery Declaration while at Sea

A third issue for analysis is to evaluate changes to the declaration process requirement to allow midwater trawl vessels to change their declaration at sea from “limited entry midwater trawl, Pacific whiting mothership sector (catcher vessel)” to “limited entry midwater trawl Pacific whiting shorebased IFQ.” The current regulation found at 660.13 (d)(1) requires the declaration report to be filed before the vessel leaves port. Additionally, 660.13(d)(5)(iv) restricts vessels using trawl gear to only declaring one of the trawl gear types listed in (d)(5)(iv)(A).

As reported by the GAP, this restriction does not allow catcher vessels who have completed their MS obligation to make a tow for Pacific whiting for delivery to a shoreside processor without first returning to port after their mothership obligation is completed, making the appropriate declaration change and then returning to the fishing ground to commence their shoreside IFQ Pacific whiting fishing activity. This current situation is described as inefficient and expensive.

Movement of Fishpot Gear Across Management Lines

Previously: 47. Trawl IFQ and LE Pot - Remove Certain Area-Management Restrictions

Both the Trawl Regulatory Review and Evaluation Committee (TRREC) and Gear Workshop Reports included recommendations relative to area management restrictions. It is the EC’s understanding that the Council’s action has restricted this issue to one item: allowing IFQ vessels using fixed gear to move gear across management lines without going to shore. Currently, that movement is considered to be fishing in two areas on the same trip.

This issue was first raised by an IFQ fixed gear pot fisherman who explained that, unlike trawl vessels or longline vessels who can stow all their gear on deck, pot gear vessels may have to make multiple trips to move their gear from one management area to the next. Unlike the LEP Fixed Gear fishery, where there are only two management area (North and South of Conception Point), within the IFQ fishery there are five management areas, and sablefish IFQ is split North and South of 36 degrees.

Current regulation requires fixed gear vessels to first return to port before deploying their gear in a different management area, thus requiring multiple trips to port by pot vessels, causing inefficiencies and increased fuel cost, much akin to the IFQ/MS declaration issue previously discussed. Also note that per regulation these trips are 100 percent observed, a point relevant for analysis of potential alternatives.

Questions pertaining to the development of alternatives.

Should the alternatives be limited to IFQ pot gear or be inclusive of all fixed gear, i.e. IFQ longline?

1. If movement is allowed from one management area to another without returning to port, should harvest and delivery from the original area be allowed?
 - a. Pot
 - b. Longline
2. If movement is allowed from one management area to another without returning to port, should vessels be allowed to deploy “baited” gear in the new management area?
 - a. Pot
 - b. Longline
3. If baited gear deployment is allowed, should the vessel be allowed to harvest the gear prior to returning to port?
 - a. Pot
 - b. Longline
4. Does the IFQ split at 36 degrees change the analysis? If so how?

The EC would appreciate comment on these potential alternatives and any additional alternatives deemed appropriate for analysis.

Removal of Derelict Crab Pots in RCAs

Previously: 70. Trawl, Non-Trawl – Provide for Retrieval of Derelict Crab Pots in RCAs

Current regulations prohibit vessels from retrieving derelict crab pots in the RCAs and returning the gear to shore (Agenda Item B.1.c, Supplemental Aiello Open Comment, June 2013). The Council is considering regulation changes to allow for retrieval for derelict crab pots in the RCAs by using the VMS and declaration system to ensure compliance with regulations that prohibit groundfish fishing in the RCA.

Dungeness crab are a state-managed species on the West Coast. The current status of state regulations regarding the retrieval for derelict crab pots are provided in Table 1.

Alternatives to be developed, based upon analysis of state regulation concurrence vs non-concurrence.

Table 1. State and Federal regulations on retrieval of derelict Dungeness crab traps.

	<u>WA</u>	<u>OR</u>	<u>CA</u>	<u>Feds</u>
Can Pull Traps of Others (In Season/DCV)	No	Yes, 25 between Dec 1 and mid June, 50 from mid June till close of season	Yes (6 Max w/DCV Permit, > 6 w/waiver)	No
Can Pull Traps of Others (Out of Season/DCV)	Yes, unlimited during DGP	Yes, unlimited	Yes (unlimited)	No
Disposition of Crab	No Retention	No Retention, except during open season where crab can be retained.	No Retention	N/A
Retention of Trap	Finder Retain during DGP	No (bring to shore, ODFW/Owner notified. Except during DGP)	No (bring to shore, owner notified)	N/A
Disposition Of Trap	Finder Retain during DGP	Return to shore/owner. Except during DGP where finder can keep or sell pots.	Return to Shore	N/A
Can Pull Traps of Others (In Season/other than DCV)	No	Yes, except groundfish trip/vessels (prohibited gear)	No	No
Can Pull Traps of Others (Out of Season/other than DCV)	No	Yes, except groundfish trip/vessels (prohibited gear)	No	No

DCV - Dungeness Crab Vessel

DGP- Derelict Gear Program

Attachment 1: VMS Unit Cost and Capabilities Survey Results – August 2014

These are the results from a survey on VMS unit cost and capabilities sent to the following VMS Vendors:

- Boatracs
- CLS America – (has not yet responded to survey).
- Faria (FWI)
- Network Innovations (formerly GMPCS)
- SkyMate

Questions and Responses

1. VMS Unit Costs: What is the cost of each NOAA Fisheries Service Type-Approved VMS units that your company provides for West Coast (Northwest) commercial fishing vessels?

Boatracs: New FMCT/G which are reimbursable cost is \$3095.00, Refurbished FMCT/G are NOT reimbursable cost is \$1595.00

CLS America: The retail cost for our THORIUM unit is \$2399.00

Faria (FWI); Faria has two type approved systems:

KTW309 - \$3,195.00 – Iridium

KTW304 - \$3,295.00 – Iridium & GSM Cellular

Network Innovations (GMPCS):

Antenna replacement: SAILOR 6150 - \$1,523.00

See cable options below:

SAILOR GOLD PLUS - \$2,500.00

SAILOR 6150 mini-C Non-SOLAS Distress System

Package consisting of: -

SAILOR 3027D

Non Solas Distess Terminal - SAILOR 6194

THRANE 6194 Term. Ctrl. Unit -

Accessories kit - User/installation

Guide, Keyboard with trackball mouse, 3606XP Monitor.

Optional Antenna Cables Sold Separately:

406100-946 10M NMEA2K Mini Device Cable - \$56.95

406100-947 15M NMEA2K Mini Device Cable - \$87.10

406100-944 30M NMEA2K Mini Cable - \$170.85

406100-945 50m NMEA2K Mini Device Cable - \$288.10

SkyMate: SkyMate 250 MSRP is \$3,100.00

2. Communication costs for each unit: What is the **monthly** communication cost using type approved satellite communication of each VMS unit at the following position reporting rate?

Interval	Boatrac	CLS America	Faria (FWI)	Network Innovations	Skymate a/
15 min	\$34.95 additional \$0.07 per poll	\$75.00	\$70.45	\$172.80	\$84.60
20 min	\$34.95 additional \$0.07 per poll	\$60.00	\$59.95	\$129.60	\$73.99
30 min	\$34.95 additional \$0.07 per poll	\$55.00	\$52.25	\$86.40	\$54.80
60 min	\$34.95	\$45.00	\$44.95	\$43.20	\$36.39
4 hours	\$34.95	\$45.00	\$34.95	\$10.80	\$21.99

a/ All communication costs based on a 30 day month.

http://www.skymate.com/user_groups/commercial_fishing.html#servicePlans

3. Reduced reporting rate: Which VMS units support “Reduced reporting rate” (reporting every 4 hours when a vessel is in port)?

- a. Describe the procedure for reduced reporting rate, to include how the VMS unit returns to normal reporting rate.

Boatrac: Both support reduced rates - Still reports once and hour with a largely reduced power draw. This can be adjusted over the air by Boatrac depending on the Regulations. By use of a “toggle switch” in line with an ignition wire. Switch to “Off” unit will appear to shut down, but will wake up and report at the specified interval. Switch to “On” unit returns to normal reporting rate.

CLS America: We do not support this.

FWI: A reduced reporting rate (port-at-rest) is rules based and applied when a vessel remains motionless for 10 or more minutes based on GPS position. Upon the Faria WatchDog 750VMS detecting movement (determined by GPS position) the system automatically switches back to the required in motion reporting rate.

Network Innovations: Zones can be used to reduce the reporting interval without on board interaction, as long as the right zones are downloaded in the terminal. The reporting will return to “normal” when the zone has been left.

In harbor requires for an IO pin to be activated manually on board (or could get wired to the ignition or similar). The minimum distance will then be used to reactivate the normal reporting interval. So if the minimum distance is set to 200m then the normal

reporting will start when the vessel has moved more than 200m. (To our knowledge, the NW Region cannot use the "In Harbor" option)

Skymate: Units can be configured to report at different intervals based on vessel movement. For instance at rest it can be set to report in 4 hour intervals, and in motion report hourly.

- b. When a reduced reporting rate is triggered, are the position reporting costs reduced?

Boatrac: No

CLS America: N/A

FWI: No, currently the vessel owner selects a data plan based on the required region reporting rate/number of Iridium bytes (i.e. 12,000 bytes/month for required one hour reporting) needed to achieve this reporting rate. We could offer a variable rate that has a lower fee but should bytes used exceed the plan the vessel owner would be billed for standard byte rate plus overage. Typically vessel owners consume unused iridium bytes sending text e-mail communications.

Network Innovations: Yes

Skymate: Yes

4. Data Logging: Which VMS units support "Data Logging" (saving position reports at an increased interval in non-volatile memory, such as position reports every 5 minutes)?

- a. Which type approved VMS units that support "Data Logging" can also send "Compressed Data Logs" over the satellite network at reduced communications costs?

Boatrac: All of the data we send is compressed

CLS America: We support this as a "backend" feature.

FWI: The FWI 750 VMS system can log up to 60,000 position reports at a frequency from once per second to once per hour and be sent OTA, We offer this feature with other International VMS authorities. The reports can be retrieved via our WSDL interface by Faria WatchDog or Vtrack or can be downloaded onto a USB memory device manually from the Faria WatchDog VTERM. During a recent discussion with Kelly Spaulding about data logging she was not sure if current VMS rules permit this feature.

Network Innovations: All Thrane Mini C terminals support logging. In the firmware from 1.05 and up the logging can also take any event that would cause a data report to be sent.

SkyMate: does not support data logging.

- b. What would the cost be for 1 compressed data log report per day of 96 position reports?

Boatrac: \$5.04

CLS America: We support this as a “backend” feature.

FWI: 1.632 or 1.7 cents for each 10 byte location update including speed, heading, lat. and lon. location, date, and time of day.

Network Innovations: The cost is pretty much the same if you want the same information logged. Logging is recommended to be used for additional “resolution” on the trail of the vessel. To be downloaded remote only when the interval reporting indicates a reason for looking closer at the vessels trail. Otherwise it should get downloaded while in harbor with a laptop connected for instance.

SkyMate: does not support data logging.

5. Geo-Fencing: Which VMS units support “Geo-Fencing” (the storing of GIS polygons in VMS unit memory)?

Boatrac: Our unit doesn’t support Geo-Fencing on the unit. We do support Geo-Fencing on the software side

CLS America: Not on the unit.

FWI: FWI VMS systems do not support GIS polygons. However we can field upgrade systems to support GIS polygons if/when required. We currently support this features for other VMS authorities, and can support on orders for new equipment/applications.

Network Innovations: All Mini C supports Geofences as mentioned.

SkyMate: The SkyMate 250 supports Geo-Fencing

6. How many “Geo-Fences” can each type-approved VMS unit store?

Boatrac: N/A

CLS America: N/A

FWI: A Modified FWI 750 VMS system can store up to 1,200 geo-fence zones.

Network Innovations: It depends on the number of positions in the zones created. Circle zones only holds one position and a little more information where a polygon includes up to 40 positions.

I will have to get back to you precisely how much flash is available for storing zones. In theory it can be 50 groups with 250 zones in each, but that would likely not be possible with all 40 point polygons.

SkyMate: SkyMate has tested up to 5 Geo-Fences stored in the SkyMate 250.

7. How many lat/lon coordinates can each geo-fence contain?

Boatrac: As many as needed

CLS America: N/A

FWI: A Modified FWI 750 can support geo-fence zones having more than 200 lat/lon points.

Network Innovations: A zone can hold from 1 to 40 points. Firmware 1.05 and up has polygons of up to 40 points, older firmware is a little more limited in the types of zones. Only 8-point polygons and only ones that “close in on themselves” not “free form” polygons as in the new firmware.

SkyMate: SkyMate has tested up to 5 lat/lon coordinates per polygon.

8. Which type-approved VMS units can change their internal programming (like position reporting rate) when the VMS unit determines that a vessel is within the “Geo-Fence”?

Boatrac: No response.

CLS America: No.

FWI: A Modified FWI 750 VMS system can assign rules to the various geo-fence zones such that the reporting frequency will change automatically when a vessel enters and/or exits the zone. We currently support this feature for other VMS authorities.

Network Innovations: All terminals with zones can do this. It is possible to specify per zone whether enter/ exit events are sent and whether the reporting interval differs from the normal reporting.

SkyMate: The current type approved unit can increase the reporting interval when detecting inside the Geo-Fence.

9. Which type-approved VMS units can send alerts to the vessel (and what kind of alerts) when the VMS units determines that a vessel has entered a “Geo-Fence”?

Boatrac: A message will be automatically sent to the unit. We also have 24 hour client care support if needed can contact them.

CLS America: No.

FWI: A modified FWI 750 VMS system can alert the vessel operator when entering a geo-fence zone with an audible alarm accompanied by “GEO-FENC” on the standard 2” user interface display or a more comprehensive message with more words and instructions on our approved VTERM touch screen display, We currently support this features for other VMS authorities.

Network Innovations: All Mini C terminals can send enter exit events, change reporting interval and change and IO pin based on whether the vessel is in a zone or not. We are not able to differentiate on the “OK” zones and the “No go” zones. So the IO pin will only be able to indicate in or outside zones.

SkyMate: Currently we do not send alerts to the vessel when inside a geo-fenced area.

10. Alternative communications channels: Which type-approved VMS units can send data via alternate communications channels?

a. Cellular connection.

Boatrac: No response.

CLS America: Yes.

FWI: Yes, the FWI P/N KTW304 supports GSM Cellular.

Network Innovations: N/A

SkyMate: N/A

b. Wi-Fi

Boatrac: No response.

CLS America: Yes.

FWI: Wi Fi is an optional add-on that could be included.

Network Innovations: N/A

SkyMate: N/A

11. What is the cost to send positional data via alternate communications methods?

a. Cellular connection.

Boatrac: No response.

CLS America: Depends on the owner's cellular data plan.

FWI: About one fifth the cost of a Satellite location update transmission or \$.00363

Network Innovations: N/A

SkyMate: N/A

b. Wi-Fi

Boatrac: No response.

CLS America: Free.

FWI: Comm cost would be free unless there is a connectivity charge at the local hot spot.

Network Innovations: N/A

SkyMate: N/A