NOTICE OF OFFICE OF MANAGEMENT AND BUDGET ACTION

Date 11/25/2014

Department of Commerce
National Oceanic and Atmospheric Administration

FOR CERTIFYING OFFICIAL: Kirit Amin
FOR CLEARANCE OFFICER: Jennifer Jessup

In accordance with the Paperwork Reduction Act, OMB has taken action on your request received 11/25/2014

ACTION REQUESTED: Revision of a currently approved collection
TYPE OF REVIEW REQUESTED: Regular
ICR REFERENCE NUMBER: 201411-0648-014
AGENCY ICR TRACKING NUMBER:
TITLE: NMFS Alaska Region Vessel Monitoring System (VMS) Program
LIST OF INFORMATION COLLECTIONS: See next page

OMB ACTION: Approved without change
OMB CONTROL NUMBER: 0648-0445
The agency is required to display the OMB Control Number and inform respondents of its legal significance in accordance with 5 CFR 1320.5(b).

EXPIRATION DATE: 11/30/2017 DISCONTINUE DATE:

BURDEN:	RESPONSES	HOURS	COSTS
Previous	48	3,745	740,145
New	46	87	185,743
Difference			
Change due to New Statute	0	0	0
Change due to Agency Discretion	0	0	150,680
Change due to Agency Adjustment	-2	-3,658	-705,082
Change due to PRA Violation	0	0	0

TERMS OF CLEARANCE:

OMB Authorizing Official: Dominic J. Mancini
Acting Deputy Administrator,
Office Of Information And Regulatory Affairs

List of ICs			
IC Title	Form No.	Form Name	CFR Citation
VMS maintenance, plus costs for installation and communication			50 CFR 679.28(f)
VMS check-in report	NA	VMS check-in	

PAPERWORK REDUCTION ACT SUBMISSION

Please read the instructions before completing this form. For additional forms or assistance in completing this form, contact your agency's Paperwork Clearance Officer. Send two copies of this form, the collection instrument to be reviewed, the supporting statement, and any additional documentation to: Office of Information and Regulatory Affairs, Office of Management and Budget, Docket Library, Room 10102, 725 17th Street NW, Washington, DC 20503.

1. Agency/Subagency originating request
DOC/NOAA/NMFS

2. OMB control number b. [ ] None
a. 0648 - 0445

3. Type of information collection (*check one*)
a. [ ] New Collection
b. [✔] Revision of a currently approved collection
c. [ ] Extension of a currently approved collection
d. [ ] Reinstatement, without change, of a previously approved collection for which approval has expired
e. [ ] Reinstatement, with change, of a previously approved collection for which approval has expired
f. [ ] Existing collection in use without an OMB control number
For b-f, note Item A2 of Supporting Statement instructions

4. Type of review requested (*check one*)
a. [✔] Regular submission
b. [ ] Emergency - Approval requested by ____/____/____
c. [ ] Delegated

5. Small entities
Will this information collection have a significant economic impact on a substantial number of small entities? [ ] Yes [✔] No

6. Requested expiration date
a. [ ] Three years from approval date b. [✔] Other Specify: 01 / 15

7. Title Alaska Region Vessel Monitoring System (VMS) Program

8. Agency form number(s) (*if applicable*)

9. Keywords Fisheries, Fishery

10. Abstract

This action would require that vessel operators with a Federal Fisheries Permit for a vessel using trawl gear that harvests groundfish deducted from the Federal total allowable catch in the Aleutian Islands sub-area set their vessel monitoring system (VMS) to transmit the vessel location at least 10 times per hour. This requirement is recommended because of the extent and complexity of the proposed trawl closure areas in the Aleutian Islands reporting area. The proposed action would establish Steller sea lion protection measures for the Atka mackerel, Pacific cod, and pollock fisheries in the Aleutian Islands sub-area that spatially, temporally, and globally disperse fishing to mitigate potential competition for prey resources between Steller sea lions and these fisheries. Spatial and temporal fishery dispersion is accomplished through closure areas, harvest limits, seasonal apportionment of harvest limits, limits on participation in a fishery, and vessel monitoring system (VMS). The VMS transmitter automatically determines the vessel's position several times per hour using a Global Positioning System satellite. A communications service provider receives the transmission and relays it to NOAA Fisheries Office for Enforcement. The VMS unit is passive and automatic requiring no reporting effort of the vessel operator.

11. Affected public (*Mark primary with "P" and all others that apply with "x"*)
a. x Individuals or households d. ___ Farms
b. P Business or other for-profit e. ___ Federal Government
c. ___ Not-for-profit institutions f. ___ State, Local or Tribal Government

12. Obligation to respond (*check one*)
a. [ ] Voluntary
b. [✔] Required to obtain or retain benefits
c. [ ] Mandatory

13. Annual recordkeeping and reporting burden
a. Number of respondents 43
b. Total annual responses 46
1. Percentage of these responses collected electronically 98 %
c. Total annual hours requested 87
d. Current OMB inventory 3,745
e. Difference -3,658
f. Explanation of difference
1. Program change
2. Adjustment -3,658

14. Annual reporting and recordkeeping cost burden (*in thousands of dollars*)
a. Total annualized capital/startup costs 11
b. Total annual costs (O&M) 175
c. Total annualized cost requested 186
d. Current OMB inventory 740
e. Difference -554
f. Explanation of difference
1. Program change 151
2. Adjustment -705

15. Purpose of information collection (*Mark primary with "P" and all others that apply with "X"*)
a. ___ Application for benefits e. P Program planning or management
b. x Program evaluation f. ___ Research
c. ___ General purpose statistics g. x Regulatory or compliance
d. ___ Audit

16. Frequency of recordkeeping or reporting (*check all that apply*)
a. [ ] Recordkeeping b. [ ] Third party disclosure
c. [✔] Reporting
1. [✔] On occasion 2. [ ] Weekly 3. [ ] Monthly
4. [ ] Quarterly 5. [ ] Semi-annually 6. [ ] Annually
7. [ ] Biennially 8. [ ] Other (describe) ____

17. Statistical methods
Does this information collection employ statistical methods
[ ] Yes [✔] No

18. Agency Contact (person who can best answer questions regarding the content of this submission)
Name: Patsy A. Bearden
Phone: (907) 586-7008

19. Certification for Paperwork Reduction Act Submissions

On behalf of this Federal Agency, I certify that the collection of information encompassed by this request complies with 5 CFR 1320.9

NOTE: The text of 5 CFR 1320.9, and the related provisions of 5 CFR 1320.8(b)(3), appear at the end of the instructions. *The certification is to be made with reference to those regulatory provisions as set forth in the instructions.*

The following is a summary of the topics, regarding the proposed collection of information, that the certification covers:

(a) It is necessary for the proper performance of agency functions;

(b) It avoids unnecessary duplication;

(c) It reduces burden on small entities;

(d) It used plain, coherent, and unambiguous terminology that is understandable to respondents;

(e) Its implementation will be consistent and compatible with current reporting and recordkeeping practices;

(f) It indicates the retention period for recordkeeping requirements;

(g) It informs respondents of the information called for under 5 CFR 1320.8(b)(3):

- (i) Why the information is being collected;
- (ii) Use of information;
- (iii) Burden estimate;
- (iv) Nature of response (voluntary, required for a benefit, mandatory);
- (v) Nature and extent of confidentiality; and
- (vi) Need to display currently valid OMB control number;

(h) It was developed by an office that has planned and allocated resources for the efficient and effective management and use of the information to be collected (see note in Item 19 of instructions);

(i) It uses effective and efficient statistical survey methodology; and

(j) It makes appropriate use of information technology.

If you are unable to certify compliance with any of the provisions, identify the item below and explain the reason in Item 18 of the Supporting Statement.

Signature of Senior Official or designee	Date

Agency Certification (signature of Assistant Administrator, Deputy Assistant Administrator, Line Office Chief Information Officer, head of MB staff for L.O.s, or of the Director of a Program or StaffOffice)	
Signature signed by Alan Risenhoover	Date 7/3/2014
Signature of NOAA Clearance Officer	
Signature BRABSON.SARAH.1365710488 Digitally signed by BRABSON.SARAH.1365710488 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=BRABSON.SARAH.1365710488 Date: 2014.12.11 11:25:33 -05'00'	Date

SUPPORTING STATEMENT
ALASKA VESSEL MONITORING SYSTEM (VMS) PROGRAM
OMB CONTROL NO. 0648-0445

This is a resubmission, with the final rule, RIN 0648-BE06, of a request for revision of an existing collection. Two changes were made in the final rule, but only to the regulations: one based on a public comment, and one, due to a technical correction. Details are in Question 8.

BACKGROUND

National Marine Fisheries Service, Alaska Region (NMFS) manages the groundfish fisheries in the exclusive economic zone (EEZ) of the Bering Sea and Aleutian Islands Management Area (BSAI) and Gulf of Alaska (GOA) under fishery management plans (FMPs) for groundfish in the respective areas. The North Pacific Fishery Management Council (Council) prepared, and NMFS approved, the FMPs under the authority of the Magnuson-Stevens Fishery Conservation and Management Act, 16 U.S.C. 1801 et seq. (Magnuson-Stevens Act). The Northern Pacific Halibut Act of 1982 (Halibut Act) at 16 U.S.C. 773–773k provides the Secretary of Commerce with the authority and general responsibility to carry out the requirements of the Preservation of the Halibut Fishery of the North Pacific Ocean and Bering Sea (Convention), signed at Ottawa, Ontario, on March 2, 1953. Commercial halibut fisheries operate within the Individual Fishing Quota (IFQ) Program, Western Alaska Community Development Quota (CDQ) Program, and through area-specific catch sharing plans. Regulations implementing the FMPs appear at 50 CFR part 679.

NMFS has management responsibility for certain threatened and endangered species, including Steller sea lions, under the Endangered Species Act (ESA) of 1973, 16 U.S.C. 1531, et seq. NMFS has the authority to promulgate regulations to enforce provisions of the ESA to protect such species. As the action agency, NMFS is responsible for conducting a section 7 consultation to insure that the Federal action of authorizing the Alaska groundfish fisheries is not likely to jeopardize the continued existence of an ESA-listed species or result in the destruction or adverse modification of its designated critical habitat. Under the provisions of section 7 of the ESA, NMFS Alaska Region Sustainable Fisheries Division is the action agency and consults with the NMFS Alaska Region Protected Resources Division on the impacts of groundfish fisheries for most ESA-listed species of marine mammals, including Steller sea lions.

Since listing Steller sea lions as an endangered species, NMFS has implemented a number of management measures, commonly known as Steller sea lion protection measures, to protect Steller sea lions from the potential effects of groundfish fishing. NMFS would strengthen Steller sea lion protection measures to insure that groundfish fisheries in the BSAI are not likely to jeopardize the continued existence of the western distinct population segment of Steller sea lions or destroy or adversely modify its designated critical habitat. Steller sea lion protection measures disperse catch of groundfish prey species in time (temporal dispersion) and space (spatial dispersion) through a variety of harvest limitations and closure areas. Many of these Steller sea lion protection measures apply specifically to Atka mackerel, Pacific cod, and pollock, which are particularly important prey species for Steller sea lions.

INTRODUCTION

NMFS requires that vessel operators participating in groundfish fisheries in the BSAI comply with a range of monitoring requirements and restrictions. NMFS uses area, season, gear, operation type, and sector specific fishery closures to maintain catch within specified allocations. Traditional methods of monitoring compliance with fishing regulations do not fully meet NMFS's need to monitor fishing activities under protection measures.

Vessel Monitoring System (VMS) units integrate global positioning system and communications electronics in a single, tamper-resistant package to automatically determine the vessel's position several times per hour. The units can be set to transmit a vessel's location periodically and automatically to an overhead satellite in real time. In most cases, the vessel owner is unaware of exactly when the unit is transmitting and is unable to alter the signal or the time of transmission. The VMS unit is passive and automatic, requiring no reporting effort by the vessel operator. A communications service provider receives the transmission and relays it to NOAA Fisheries Office for Law Enforcement (OLE) and United States Coast Guard (USCG).

The VMS is generally acknowledged to be an essential component of monitoring and management for complicated, geographically widespread fishing closures. The VMS allows verification of where fishing is taking place in real time. This, in turn, allows verification that vessels fishing in an area are permitted to fish in that area. When a VMS track is examined by a knowledgeable analyst, much information can be inferred: e.g., whether a vessel is actively fishing and the type of gear being used. When VMS tracks are compared with active, open fisheries vessels may be identified for closer scrutiny. Given the large size and remoteness of the area in which Alaska fisheries occur and the limited enforcement infrastructure available, determination of vessel location depends crucially on VMS reports.

Information from VMS is used to identify where vessels are operating, to organize patrols so as to increase the number of fishing vessels visually examined, or to focus examination of vessels of greatest concern (because of past records of fishing violations, or because of the location of fishing activity), and as evidence in prosecutions. The VMS also ensures that harvested fish are properly debited or reported, because NMFS can track vessels as they arrive in port to offload the product.

A. JUSTIFICATION

1. <u>Explain the circumstances that make the collection of information necessary.</u>

The proposed action would establish Steller sea lion protection measures for the Atka mackerel, Pacific cod, and pollock fisheries in the Aleutian Islands subarea that spatially, temporally, and globally disperse fishing to mitigate potential competition for prey resources between Steller sea lions and these fisheries. Spatial and temporal fishery dispersion is accomplished through closure areas, harvest limits, seasonal apportionment of harvest limits, and limits on participation in a fishery. This action would require that vessel operators with a Federal Fisheries Permit (FFP) [see OMB Control No. 0648-0206] for a vessel using trawl gear that harvests groundfish deducted from the Federal total allowable catch (TAC) in the Aleutian Islands subarea set their VMS to transmit the vessel location at least 10 times per hour. This requirement is

recommended because of the extent and complexity of the proposed trawl closure areas in the Aleutian Islands reporting area.

2. <u>Explain how, by whom, how frequently, and for what purpose the information will be used. If the information collected will be disseminated to the public or used to support information that will be disseminated to the public, then explain how the collection complies with all applicable Information Quality Guidelines</u>.

Enforcement of measures, such as critical habitat no-fishing and directed fishing closures, is heavily reliant on use of VMS. VMS is the primary enforcement tool for groundfish management in the Aleutian Islands and it is likely to become more important in the future. Use of VMS is likely to increase because the Aleutian Islands are a challenging environment to implement any other form of compliance monitoring. It is an expansive area, with low commercial fishing vessel densities. The management strategies for limiting catch of Steller sea lion prey species in proximity to Steller sea lion habitat, apply numerous and complex area closures. This vast management area is supported by a limited USCG and OLE presence.

Considering the current fiscal limitations, VMS has become a critical tool for monitoring and enforcement of area closures. VMS systems are small, tamper-resistant, transmitter-GPS combinations that send regular signals identifying the vessel and its location to ground stations via overhead satellites. These signals make it possible for OLE to monitor the locations of fishing vessels. The information helps OLE identify vessels that may have fished inside closed areas, permitting the targeting of investigative resources. VMS information is also used by NMFS in-season fishery managers to monitor fishing effort in a region or area, and plays an important role in determining when to close a fishery and when it can safely be left open.

a. VMS operation [REVISED]

This action would require that vessel operators with a Federal Fisheries Permit (FFP) [see OMB Control No. 0648-0206] for a vessel using trawl gear that harvests groundfish deducted from the Federal TAC in the Aleutian Islands subarea, set their VMS to transmit the vessel location at least 10 times per hour. This requirement is recommended because of the extent and complexity of the proposed trawl closure areas in the Aleutian Islands reporting area. Monitoring is further complicated by the overlap of proposed trawl closures with the existing closures.

OLE developed national standards for VMS transmitters, base stations, and communication service providers. These standards ensure that a vessel purchasing a unit for use in one region of the United States will not have to purchase a different unit to fish in another region. Currently approved VMS units are posted at
http://www.nmfs.noaa.gov/ole/docs/2014/051414_noaa_fisheries_service_type.pdf

Prior to participation in a fishery that requires VMS, a vessel owner must purchase a NMFS-approved VMS transmitter and install it or have it installed onboard the vessel. The VMS transmitter must be available for inspection by NMFS personnel, observers, or authorized officers. The vessel owner must ensure that the VMS transmitter is not tampered with, disabled, destroyed, or operated improperly; and must pay all charges levied by the communication service provider.

Regulations at 50 CFR part 679.28 require that the VMS be operational. VMS equipment failure may interfere with normal vessel operations until repairs can be made, and this may impose additional costs. If the VMS unit is not working, the vessel operator must contact OLE who will assist in troubleshooting the system to get it operational again. OLE treats equipment breakdowns on a case-by-case basis and tries to avoid interrupting a fishing trip already in progress.

For additional information and any questions, contact OLE Headquarters VMS Support
Phone: 888-219-9228
Fax: 301-427-0049
Hours of Operation:7:00AM to 11:00PM (EST), Monday through Friday

Under this action, the operator of the vessel would be required to set the VMS unit to transmit at least 10 times per hour. The current transmission rate, commonly known as the polling rate, of 2 times per hour could allow vessels to fish in significant portions of these closed areas without detection. The increased polling rate would limit the ability of a vessel to operate inside or through a closed area undetected. Vessels using trawl gear have the capability of fishing through a closed area without detection if the polling rate of the transmission is less than 10 times per hour. Increasing polling rates will provide OLE and the USCG with the additional information needed to monitor potential accidental or intentional trawl vessel incursions into the often small, and irregularly shaped Steller sea lion critical habitat areas.

There are currently 4 NOAA type approved VMS units available for use in the Alaska Region, although as of July, 2011, no new installations of the GMPCS Thrane & Thrane Sailor TT-3026D VMS Gold are authorized by NOAA.

Cost comparison for the VMS units with average costs for the different units and polling rates

Company	Base Unit Cost ($) With Data Terminal	1 poll/hr. $/month	Annual Cost ($) for 1 poll/hr.	2 polls/hr. $/month	Annual Cost for 2 polls/hr.	Additional Data Cost/KB
CLS American Thorium	3,095.00	45.00	540.00	55.00	660.00	1.75
Faria WatchDog	3,195.00	40.00	480.00	54.52	654.24	1.70
GMPCS Thrane & Thrane	2,495.00	44.00	528.00	88.00	1,056.00	2.70
Skymate/Orbcomm (Gold Plan)	3,100.00	38.99	467.88			1.90
Skymate/Orbcomm (Platinum Plan)	3,100.00	38.99	467.88	73.99	887.88	1.40
Average Cost	**2,971.25**	**42.00**	**503.97**	**67.88**	**814.53**	**1.89**

Depending on which brand of VMS is chosen, increasing polling rates to 10 per hour from 2 per hour is likely to increase the average monthly cost of a VMS service provider agreement to approximately $340 per month [(815 x 5 = 4,075/12 = 340].

Estimated Cost to Trawl Vessels by increasing Polling rate in the Aleutian Islands based on 2010 data

	Estimated hours and costs in dollars: Trawl Gear by Species		
	CV (all target species)	CP (Atka mackerel)	CP (fishing other than Atka mackerel)
Estimated months for projecting costs*	2 months	6 months	2 months
Estimated cost per Month	$200	$200	$200
Estimated total Cost per year	$400	$1,200	$400

*Based on fishing activity by relevant vessels and adjusting upwards as necessary to account for VMS billing practices.

In some cases, vessels may have to replace VMS units, because existing units cannot be adjusted to do 10 pols per hour. NMFS estimates that three vessels may need to replace VMS unit with an estimated cost per vessel of about $3,500.

NOAA does have a current VMS reimbursement program that is jointly managed by NOAA and the Pacific States Marine Fisheries Commission, but that is subject to future appropriations. This program provides for reimbursement of a maximum for $3,100 per unit and covers the cost of the VMS transmitter unit. To be eligible for reimbursement, vessel owners/operators must purchase an approved VMS unit and have it installed on their vessel and activated. Upon completion of the installation and activation, the vessel owner/operator must contact the VMS Support Center to ensure the vessel is properly registered in the VMS system. Once this completed, NOAA OLE will issue the vessel a number that the vessel operator then includes on their reimbursement application with the Pacific States Marine Fisheries Commission. This reimbursement does not cover costs associated with tax, labor, and installation.

Corrected miscellaneous costs to include VMS service provider agreement (transmission costs) and maintenance/repairs.

VMS operation, Respondent	
Number of VMS respondents	**43**
Catcher vessels (all target species) = 27 (x 2 months)	
Catcher/processor (Atka mackerel) = 11(x 6 months)	
Catcher/processor (other than Atka) = 5 (x 2 months)	
Total VMS transmissions (72,000; not counted as responses)	
VMS = 240 transmissions per fishing day	
Catcher vessels (60 days x 240 = 14,400)	
Catcher/processor, other than Atka (60 days x 240 = 14,400)	
Catcher/processor, Atka (180 days x 240 = 43,200)	
Total burden for maintenance and repairs = 2 hr x 43	**86 hr**
Total personnel cost	**$3,182**
Maintenance and repairs (37/hr x 86)	
Total miscellaneous cost	**$185,725**
New VMS incl/installation ($3500 x 3 = 10,500)	
VMS Service provider agreement – transmission costs (43 x 4075 = 175,225)	

VMS operation, Federal Government	
Total responses	**0**
Total burden hours	**0**
Total personnel cost	**0**
Total miscellaneous costs	**0**

b. VMS check-in report (REVISED)

Upon completion of purchase and installation of a VMS unit, the participant must register the VMS unit with an approved service provider. At least 72 hours before participation in a fishery that requires VMS, the participant must send a one-time VMS check-in report to OLE. This check-in report is required only once to obtain the signature of the VMS unit. The information on this report enables OLE to verify that the VMS system is functioning and that VMS data can be identified as a specific vessel. The VMS check-in report may be filled out on the screen, printed, and faxed to (907) 586-7703.

Only those vessel operators that purchased a new VMS will need to check-in. All other VMS units are identified.

VMS Check-in Report

Date
VMS transmitter ID or serial number
Vessel name
USCG documentation number
Federal Fisheries permit number or Federal crab vessel permit number
Name and telephone number of contact person

VMS check-in report, Respondent	
Number of respondents	**3**
Total responses	**3**
Frequency = 1	
Total burden hours (0.6)	**1 hr**
Hours per response = 12 min	
Total personnel cost ($37 x 1)	**$37**
Total miscellaneous costs (18.15)	**$18**
Fax ($6 x 3 = 18)	
Photocopy (0.05 x 3 = 0.15)	

VMS check-in report, Federal Government	
Total responses	**3**
Total burden hours (0.6)	**1 hr**
Hours per response = 12 min	
Total personnel cost ($37 x 1)	**$37**
Total miscellaneous costs	**0**

It is anticipated that the information collected be disseminated to the public or used to support publicly disseminated information. NMFS will retain control over the information and safeguard it from improper access, modification, and destruction, consistent with National Oceanic and Atmospheric Administration (NOAA) standards for confidentiality, privacy, and electronic information. See response to Question 10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological techniques or other forms of information technology.

The VMS collection-of-information is automated and integrates current information technology in the fishery management and monitoring process.

Upon purchase of a VMS unit, the VMS check-in report may be completed onscreen using fillable forms, downloaded, and printed from the NMFS Alaska Region website **http://www.alaskafisheries.noaa.gov.** The VMS check-in report must be faxed to: NOAA Fisheries Office for Law Enforcement Fax number: 907-586-7703.

4. Describe efforts to identify duplication.

No duplication exists with other information collections.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize burden.

One catcher/processor and 11 catcher vessels—were believed to constitute small entities. The estimated average gross revenue for these firms, in 2012, was about $1.4 million. This collection-of-information does not impose a significant impact on small entities.

6. Describe the consequences to the Federal program or policy activities if the collection is not conducted or is conducted less frequently.

The VMS is an integral part of the management of the fisheries in the Alaska Region. It would not be possible to carry out the mandates of the Magnuson-Stevens Act and other laws if approval to continue these previously approved collections were to be denied.

7. Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.

No special circumstances exist.

8. Provide information on the PRA Federal Register Notice that solicited public comments on the information collection prior to this submission. Summarize the public comments received in response to that notice and describe the actions taken by the agency in response to those comments. Describe the efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported.

NMFS published a proposed rule to implement Steller sea lion protection measures on July 1, 2014 (79 FR 37486). The comment period on the proposed rule ended on August 15, 2014. NMFS received 17 letters of comments on the proposed rule.

NMFS released the Final EIS in May, 2014 (79 FR 29759, Friday, May 23, 2014). NMFS received 2 letters of public comment on the Final EIS. All of the comment letters received are posted on http://www.regulations.gov, search term NOAA-NMFS-2012-0013.

The 19 letters received contained 44 unique comments on the proposed rule and 21 unique comments on the EIS. Note that while NMFS is not required to respond to comments received as a result of issuance of the final EIS, NMFS decided to provide responses as part of the decision-making process. The first 12 comments are on fishery management measures. The next comments, 13 through 31, are on Steller sea lion issues. Comments 32 through 48 are on economic issues; comments 49 through 51 are on community issues; comments 52 through 60 are on EIS alternatives, comments 61 through 65 are on additional issues. Comments after comment 12 are not listed in this analysis.

NMFS made two changes to the final rule. One change is in response to public comments and one change is a technical correction.

First, NMFS added the term "C season" to § 679.20(a)(7)(v)(B) to correct an inadvertent omission. This regulatory correction has no impact on the Steller sea lion protection measures but provides an accurate description of existing Pacific cod seasons.

Second, NMFS revised § 679.20(a)(7(vii) to more accurately describe the process for setting the Pacific cod harvest limitation for Area 543. In the proposed rule, § 679.20(a)(7(vii) said that NMFS would adjust the ABC by deducting the State guideline harvest level (GHL). This is not the case, NMFS does not adjust the ABC. NMFS modified this paragraph to explain that NMFS will first subtract the State GHL Pacific cod amount from the Aleutian Islands Pacific cod ABC. Then NMFS will determine the harvest limit in Area 543 by multiplying the percentage of Pacific cod estimated in Area 543 by the remaining ABC for AI Pacific cod. This correction does not change the process for setting the Pacific cod harvest limitation and would have no impact on the Steller sea lion protection measures.

Comments & Responses to the Proposed Rule	
Comment 1 The proposed rule continues to reduce the Atka mackerel total allowable catch, restrict catch in Steller sea lion critical habitat, and spread the catch out temporally and spatially. Further, the majority of Steller sea lion critical habitat remains closed for Atka mackerel: 76 percent of critical habitat in 543; 93 percent in 542; and almost all of 541 except a small area southeast of Seguam Pass. These measures will reduce the operational efficiency of harvesters fishing under the provisions of the Amendment 80 Program. This is particularly true given current low permissible harvest levels, even if allowed catches are managed cooperatively among participants in the Amendment 80 Program.	**Response** NMFS acknowledges the comment. Amendment 80 to the FMP identified participants using trawl catcher/ processors in the BSAI active in groundfish fisheries other than Bering Sea pollock (i.e., the head-and-gut fleet or Amendment 80 vessels) and established a framework, known as the Amendment 80 Program, to regulate fishing by this fleet (72 FR 52668, September 14, 2007). The Amendment 80 Program created Amendment 80 quota share based on the historic catch of quota share species by Amendment 80 vessels, facilitated the development of cooperative arrangements (Amendment 80 cooperatives) among quota share holders, and assigned an exclusive harvest privilege for a portion of the TAC of quota share species for participants in Amendment 80 cooperatives. Chapter 8 of the EIS describes the factors affecting the operations of vessels in the Amendment 80 Program under this action.

Comments & Responses to the Proposed Rule	
Comment 2 The development of the Atka mackerel management measures by the Council's Steller Sea Lion Mitigation Committee was guided in large measure by the results of NMFS Fishery Interaction Team studies. The Atka mackerel management measures implemented by this action are intended to meet the goal of reducing the possibility of competition. These Atka mackerel management measures are responsive to the best available information and to the performance standards of the 2010 FMP BiOp (see ADDRESSES). The 2014 BiOp provides a relevant context for evaluating the exposure of Steller sea lion to potential constraining competition. Roughly 90 percent of the time during a year there will be only 1 or 2 vessels fishing Atka mackerel within a given management area (e.g., Area 542). With the removal of the "platoon" system under this action, the Atka mackerel fishery will be highly dispersed in time and space.	**Response** NMFS acknowledges the comment. Chapter 8 of the EIS describes the operations of vessels fishing for Atka mackerel under this action.
Comment 3 Strike the term “Area 541” from the proposed rule at § 679.20(a)(8)(ii)(D) where it reads, "Any unharvested Atka mackerel A season allowance that is added to the B season is prohibited from being harvested within waters 0 nm to 20 nm of Steller sea lion sites listed in Table 6 to this part and located in Areas 541, 542, and 543." Any unused A season Atka mackerel should roll to B season and be available throughout the area open to fishing within Area 541. This will allow the fleet to disperse effort as was envisioned under this action. This change in regulation is also supported by NMFS research that showed little exchange of Atka mackerel inside and outside of 12 nm within Area 541.	**Response** The regulations at § 679.20(a)(8)(ii)(D) are correct and NMFS made no changes to regulations in response to this comment. NMFS intended to prohibit the harvest of Atka mackerel TAC rolled over from the A season inside critical habitat in the B season in Areas 541, 542, and 543. This prohibition preserves the intent of the existing seasonal apportionment of Atka mackerel TAC, which is to temporally disperse harvest. Currently, in each management area 50 percent of the TAC is assigned to the A season and 50 percent to the B season, see § 679.20(a)(8)(ii)(C)(ii), with a limited ability for unused TAC in the A season to be rolled over to the B season under § 679.20(a)(8)(ii)(D). As explained in the preamble to the proposed rule, the purpose of this provision is to limit the amount of harvest that could occur in critical habitat to further protect Atka mackerel prey resources for Steller sea lions inside critical habitat (79 FR 37500). Unharvested Atka mackerel TAC from the A season can be harvested in the B season outside of critical habitat. This provision also provides for greater spatial dispersion of harvest away from Steller sea lion critical habitat.
Comment 4 The proposed rule would restore some productive fishing grounds and remove the no-retention regulations for the Pacific cod fishery. These measures provide some reduction in the impacts of Steller sea lion protection measures to the Pacific cod fishery relative to the 2010 Interim Final Rule. However, the amount of TAC available to the Pacific cod fishery in the Aleutian Islands will be only a small fraction of what was available and what was harvested prior to 2011 because of the decision to separate the BSAI Pacific cod into separate stocks with separate OFLs, ABCs, and TACs. With the adoption of separate Pacific cod TACs for the Aleutian Islands and Bering Sea, the new measures	**Response** NMFS acknowledges the comment. Chapter 8 of the EIS describes the management of the Pacific cod fishery under this action.

Comments & Responses to the Proposed Rule	
provide much better protection of the Pacific cod resource at the global scale than did the 2010 FMP BiOp RPA implemented in the 2010 Interim Final Rule.	
Comment 5 NMFS could alleviate the concern over the concentration of Pacific cod harvest in Area 543 and 542 by including re-consultation triggers in the final rule similar to the re-consultation triggers NMFS included in the 2010 Interim Final Rule which established non-trawl and trawl sector guideline harvest limits for Pacific cod by area. NMFS should consider re-consultation triggers as non-regulatory guideline harvest levels distinct for trawl and non-trawl sectors Pacific cod harvest in Areas 543 and 542 (and possibly 541). These re-consultation triggers could serve as an interim measure to address immediate concerns until superseded by Council action. Re-consultation triggers would ensure less concentration of harvest in these areas due to greater temporal dispersion of harvest by fixed gear (which is more temporally dispersed than trawl gear). Re-consultation triggers would also ensure harvest by non-trawl gear which fishes at a slower rate than trawl gear and where non-trawl gear is less likely to contribute to localized depletion.	**Response** NMFS included triggers for reinitiation of the section 7 consultation for Pacific cod harvest in Areas 541 and 542 as part of the RPA in the 2010 FMP BiOp. The Pacific cod ABC and TAC were specified as a combined BSAI TAC and ABC under the proposed action analyzed in the 2010 FMP BiOp. Because there were no limits on the amount of the BSAI Pacific cod TAC that could be caught in Areas 541 and 542, the RPA contained triggers to cue NMFS and the public that reinitation of section 7 consultation should occur if fishing exceeded historical catch amounts in these management areas. NMFS considered these triggers important because the RPA and its implementing 2010 Interim Final Rule also closed Area 543 to directed fishing and prohibited retention of Pacific cod. With the closure of Area 543 to directed fishing and retention of Pacific cod prohibited under the 2010 Interim Final Rule, NMFS was concerned that harvest displaced from Area 543 would cause an increase in harvest in Areas 542 and 541. NMFS included a discussion of these triggers from the 2010 FMP BiOp in the preamble to the 2010 Interim Final Rule, however, as explained in that preamble, NMFS did not include these triggers in the implementing regulations (75 FR 77541). Similar triggers are not required under this action because the nature of the Pacific cod fishery and harvest limits have changed since the 2010 FMP BiOp. As of 2014, Pacific cod OFLs, ABCs, and TACs are specified separately for the eastern Bering Sea and Aleutian Islands. The amount of Pacific cod catch in the Aleutian Islands is expected to be substantially reduced relative to prior years when the OFL, ABC, and TAC was combined for the BSAI. Therefore, the potential for a shift of a substantial amount of fishing effort from one area of the Aleutian Islands is not present under this action, and the 2014 BiOp did not include an RPA and did not specify reinitiation triggers for the Pacific cod fishery. The reinitiation notice in section 10.0 of the 2014 BiOp noted that formal consultation may be required if the Aleutian Islands Pacific cod harvest is concentrated in Areas 542 or 543, as this would reflect a pattern not seen in the historical fishery data. The EIS and the 2014 BiOp anticipated that a larger proportion of the Aleutian Islands Pacific cod TAC is likely to be harvested by trawl gear than non-trawl gear and the Council did not recommend harvest limits.
Comment 6 Make two changes to the regulations; (1) apportion the Aleutian Islands Pacific cod TAC between fixed gear and trawl gear for Areas 543, 542, and 541, and (2) apportion the Aleutian Islands Pacific cod TAC between	**Response** This final rule implements measures necessary to protect Steller sea lion prey. The changes proposed by the commenter to apportion the Aleutian Islands Pacific cod TAC between fixed gear and trawl gear and between the

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the A and B season for Areas 543, 542, and 541. Without these changes, the proposed rule, in conjunction with separate management of Aleutian Islands Pacific cod and increasing State of Alaska guideline harvest level, could reduce fixed gear harvest opportunity in the Aleutian Islands and increase the proportion of trawl harvest of Pacific cod. The lack of an Aleutian Islands Pacific cod TAC apportionment between fixed gear and trawl gear for Areas 543, 542, and 541 will result in a decreased proportion of fixed-gear Pacific cod harvest in the Aleutian Islands and an increased proportion of trawl Pacific cod harvest in the Aleutian Islands. This means more Pacific cod harvest in the Aleutian Islands will be harvested by trawl gear that is more temporally compressed (February and March), fishes at a higher rate (than fixed gear), and is more likely to cause localized depletion. This is inconsistent with the stated intent of the proposed rule.	A and B seasons are not Steller sea lion protection measures. Apportioning the Aleutian Islands Pacific cod TAC between fixed gear and trawl gear and between the A and B season would require a separate regulatory amendment. NMFS cannot add this provision or an interim measure to the final rule because it not been considered, analyzed, or available for public comment. The Council could consider and analyze this proposal and make a recommendation to NMFS for a future regulatory amendment. NMFS notes that this action and other management actions limit the potential for localized depletion noted by the commenter. First, a separate Aleutian Islands Pacific cod TAC was established starting in 2014. This resulted in a substantial reduction in the Pacific cod available for harvest in the Aleutian Islands relative to management prior to 2014 (see Chapter 3 of the EIS for additional detail). This management action does have an impact on the amount of Pacific cod that can be effectively harvested by trawl and fixed gear in the Aleutian Islands. Given the existing and reasonably foreseeable Aleutian Islands Pacific cod TACs, it is likely that trawl vessels will be able to fully harvest this limited TAC before the Pacific cod aggregate and are available for harvest by fixed gear vessels. Second, this action limits the areas and amount of Pacific cod that can be harvested to limit the impacts of the Pacific cod fishery on Steller sea lion prey resource (see Chapter 5 of the EIS for additional detail). The Council and NMFS were aware of the impact of the Aleutian Islands Pacific cod TAC on the fixed gear fleet's harvest opportunities when the Council took action to split the Pacific cod TAC. The EIS analyzed the impacts of the proposed action and its alternatives with the understanding that a separate Pacific cod TAC would be implemented in 2014 (see Chapter 5 of the EIS). The 2014 BiOp acknowledged the impacts of the Pacific cod TAC split, including the fact that the trawl fishery would harvest the TAC, when it analyzed the proposed suite of Steller sea lion protection measures and found that the implementation of this final rule was not likely to jeopardize the continued existence of Steller sea lions and was not likely to destroy or adversely modify designated Steller sea lion critical habitat. Therefore, the final rule is consistent with the stated intent for this action.
Comment 7 The proposed regulatory text at § 679.20(a)(7)(v)(B) states, "Harvest of seasonal apportionments in the Amendment 80 limited access fishery. (1) Pacific cod ITAC assigned for harvest by the Amendment 80 limited access fishery in the A season may be harvested in the B seasons." This mistakenly omits a reference to the C season contained in paragraph (a)(7)(v)(A) that states, "Use of seasonal apportionments by Amendment 80 cooperatives. (1) The amount of Pacific cod listed on a	**Response** NMFS agrees that this was an inadvertent typographical error and has made the change to the final rule § 679.20(a)(7)(v)(B) to correct this inadvertent omission. Section 679.20(a)(7)(v)(B) now reads, "Harvest of seasonal apportionments in the Amendment 80 limited access fishery. (1) Pacific cod ITAC assigned for harvest by the Amendment 80 limited access fishery in the A season may be harvested in the B or C seasons." The changes NMFS made to § 679.20(a)(7)(v) are

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CQ permit that is assigned for use in the A season may be used in the B or C season." We believe this was an inadvertent omission and the words "or C" belong in paragraph (a)(7)(v)(B)(1) so that it would read: "Pacific cod ITAC assigned for the harvest by the Amendment 80 limited access fishery in the A season may be harvested in the B or C seasons."	discussed in the preamble to the proposed rule (79 FR 37502). This regulatory correction has no impact on the Steller sea lion protection measures.
Comment 8 The management measures put forward in the proposed rule are, on the whole, a significant improvement over the measures that are currently in place from the 2010 Interim Final Rule, particularly in regards to the re-opening of Area 543 to Pacific cod fishing. The new measures are more consistent with the best available science on the impacts of groundfish fisheries on the Steller sea lions and reflect management measures developed and supported by the Council and its Steller Sea Lion Mitigation Committee.	**Response** NMFS acknowledges the comment.
Comment 9 The Pacific cod fishery has been the primary basis of seafood processing in Adak and a mainstay of the local economy. Re-opening portions of critical habitat to fishing will provide more spatial dispersion of the fishery. Setting a separate TAC for Aleutian Islands Pacific cod is a precautionary measure that will protect the long term productivity of the Pacific cod stock. While these measures will result in less Pacific cod being available in the Aleutian Islands in the short run, the more conservative management of Aleutian Islands Pacific cod could provide the community of Adak with a more stable resource base in the long run.	**Response** NMFS acknowledges the comment.
Comment 10 Prior to the 2014 BiOp, no analysis of a commercial pollock fishery in the Aleutian Islands had been undertaken since Congress allocated pollock to the Aleut Corporation in 2004. The 2014 BiOp takes the first hard look at the spatial distribution of the historic Aleutian Island pollock fishery in comparison to the telemetry data on Steller sea lion foraging locations. It also compares Steller sea lion dive profiles with pollock fishing depths. In both cases the 2014 BiOp finds the least overlap of any of the three prey species. Additionally, scat data presented in the 2010 FMP BiOp showed Aleutian Islands pollock had the lowest frequency of occurrence in Steller sea lion scat of the three prey species of concern. The statutory and regulatory provisions that limit the maximum amount of pollock TAC that may be harvested in the Aleutian Islands means that the pollock TAC in 2015 would be less than 50 percent of the Aleutian Islands pollock ABC. The commenter notes that Aleutian Islands pollock harvest is likely to be significantly less than the TAC because allocations provided to Community Development Quota (CDQ) groups (ie., 10 percent of the Aleutian Islands TAC) may be harvested in the Bering Sea, and regulations allocate	**Response** NMFS agrees that the Aleutian Islands pollock TAC is likely to be substantially below the Aleutian Islands pollock ABC in the foreseeable future given existing statutory and regulatory provisions that limit the maximum Aleutian Islands pollock TAC to 19,000 mt (see regulations at § 679.20(a)(5)(iii) and Table 3 in this preamble). NMFS notes that although catch of Aleutian Islands pollock may be less than the TAC for the reasons noted by the commenter, NMFS does not have specific information indicating that catch will be consistently below the Aleutian Islands TAC. The EIS and the 2014 BiOp assumed that pollock catch in the Aleutians would equal the TAC for purposes of analyzing the effects of this action.

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50 percent of the TAC remaining after allocation to CDQ groups to vessels less than 60 feet in length overall. These smaller vessels will have difficulty harvesting their pollock allocations due to the greater depths at which it is found in the Aleutian Islands.	
Comment 11 The proposed rule to allow pollock fishing in some portions of critical habitat a full decade after 2004 legislation allocating Aleutian Islands pollock to the Aleut Corporation for the purpose of economic development on Adak will finally allow the realization of the Congressional intent.	**Response** NMFS acknowledges the comment.
Comment 12 Reduce the TAC for the Bering Sea Aleutian Islands pollock fishery by 50 percent because it may be a cause in the Steller sea lion population decline. One of the Steller sea lion's primary food sources is pollock. Not having a stable food supply forces the Steller sea lions to travel farther and compete with other marine animals for different food resources. More frequent Steller sea lions sightings occur in areas of the Bering Sea that were previously uninhabited by sea lions have local residents wondering why.	**Response** NMFS manages pollock in the Aleutian Islands separately from the Bering Sea. This proposed action changes management of the Aleutian Islands pollock fishery, as detailed in this preamble. The Aleutian Islands pollock TAC is greatly reduced from the ABC due to a number of factors described in Comment 10 and shown in Table 3 in this preamble. The Bering Sea pollock fishery is outside the scope of this action. The 2010 FMP BiOp analyzed the impacts of the Bering Sea pollock fishery on Steller sea lions and concluded that the management measures currently in place, including the management measures for the Bering Sea pollock fishery, are not likely to jeopardize the continued existence of Steller sea lions or destroy or adversely modify its designated critical habitat. The 2014 BiOP concluded management measures in this action for the Aleutian Islands pollock fishery are not likely to jeopardize the continued existence of Steller sea lions or destroy or adversely modify its designated critical habitat. NMFS notes that a wide range of factors can affect the distribution of Steller sea lions. The occurrence of Steller sea lions at a location may occur for reasons other than the lack of adequate prey resources in other locations.

9. <u>Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees</u>.

No payment or gift to respondents is provided under this program.

10. <u>Describe any assurance of confidentiality provided to respondents and the basis for assurance in statute, regulation, or agency policy</u>.

All VMS units include systems to minimize the risk of direct or inadvertent disclosure of vessel position. As stated in the applicable regulations, the information collected, including VMS transmission – but not including information on the VMS check-in report - is confidential under

section 402(b) of the Magnuson-Stevens Act (16 U.S.C. 1801 *et seq*.); and also under NOAA Administrative Order (AO) 216-100, which sets forth procedures to protect confidentiality of fishery statistics.

All information collected is part of a system of records: NOAA #6: Fishermen's Statistical Data.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private.

This information collection does not involve information of a sensitive nature.

12. Provide an estimate in hours of the burden of the collection of information.

Total estimated unique respondents: 43, down from 48. Total estimated responses: 46, down from 48. Total estimated burden hours: 87, down from 3,745. Total estimated personnel costs: $3,219, down from $93,675.

13. Provide an estimate of the total annual cost burden to the respondents or record-keepers resulting from the collection (excluding the value of the burden hours in Question 12 above).

Total estimated miscellaneous costs: $185,743, down from $740,145.

14. Provide estimates of annualized cost to the Federal government.

Total estimated responses: 3, down from 240. Total estimated burden hours: 1 hr, down from 1,625. Total estimated personnel costs: $37, down from $129,675.

15. Explain the reasons for any program changes or adjustments.

A program change would require that vessel operators with an FFP for a vessel using trawl gear that harvests groundfish deducted from the Federal TAC in the Aleutian Islands subarea set their VMS to transmit the vessel location at least 10 times per hour. This requirement is recommended because of the extent and complexity of the proposed trawl closure areas in the Aleutian Islands reporting area.

VMS Operation (includes purchase, installation, transmission increase)
Capital costs: New VMS including installation ($3500 x 3) = 10,500
Miscellaneous costs: VMS Service provider agreement – additional transmission costs for 43 vessels: 3,260 x 43 = $140,180 (adding 4 x 815 to the current cost).

The following adjustments were made.

VMS Operation (includes transmission and maintenance)
This corrects the personnel costs. In previous analyses personnel was indicated as doing the installation as well as maintenance.

a decrease of 5 respondents and responses, 43 instead of 48

a decrease of 3,649 hr burden, 86 instead of 3,735 hr
a decrease of $90,218 personnel costs, $3,182 instead of $93,400
a decrease of $4,075 miscellaneous costs, $35,045 instead of $39,120 (starting point of $815 per vessel in transmission costs)
a decrease in 739,857 in capital costs, 0 instead of 739,857

VMS Check-in report.
a decrease of 45 respondents and responses, 3 instead of 48
a decrease of 9 hr burden, 1 hr instead of 10
a decrease of $238 personnel costs, $37 instead of $275
a decrease of $270 miscellaneous costs, $18 instead of $288

16. For collections whose results will be published, outline the plans for tabulation and publication.

NMFS has no plans to publish the results of this information collection.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons why display would be inappropriate.

In accordance with OMB requirements, the control number and expiration date of OMB approval are shown on the VMS check-in report. The transmission of the VMS data is automatic and electronic, and therefore not possible to display the OMB expiration date.

18. Explain each exception to the certification statement.

In accordance with OMB requirements, the certification statement is shown on the VMS check-in report. The transmission of the VMS data is automatic and electronic, and therefore not possible to display the OMB certification statement.

B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

This collection does not employ statistical methods.

OMB Control No. 0648-0445
Expiration Date: 01/31/2015

Please fax this completed form to:
NOAA Fisheries Service
Office For Law Enforcement
VMS Fax number: ***907-586-7703***

NOAA Fisheries Service

VMS Fax

Note: Please register your VMS unit with an approved service provider prior to using this fax.

Date:_____

Vessel Name:_____

U.S. Coast Guard DOC#:_____

Federal Fisheries Permit #:_____

or

Federal Crab Vessel permit #:_____

Contact Person: _____

Contact Telephone: _____

VMS Transmitter Name and ID or serial #:_____

PUBLIC REPORTING BURDEN STATEMENT

Public reporting burden for this collection of information is estimated to average 12 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Assistant Regional Administrator, Sustainable Fisheries Division, Alaska Region, NMFS, P.O. Box 21668, Juneau, AK 99802.

ADDITIONAL INFORMATION

Before completing this form please note the following: 1) NMFS cannot conduct or sponsor this information request, and you are not required to respond to this information request, unless the form displays a currently valid OMB control number; 2) This information is mandatory and is required to manage the VMS data collection program for groundfish under 50 CFR part 679 and CR crab fisheries under 50 CFR part 680, and under section 402(a) of the Magnuson-Stevens Act (16 U.S.C. 1801 et seq.) and 16 U.S.C. 1862(j) ; 3) Federal law and regulations require and authorize NMFS to manage commercial fishing effort; 4) Responses to this information request are not confidential.

Overview of Vessel Monitoring System Discussion Paper April 2012

I. Introduction

Since 2000, the Council has been extending requirements for Vessel Monitoring System (VMS) coverage to new categories of commercial fishing vessels, in order to enforce new regulations primarily pertaining to Steller sea protection measures and protection measures for EFH and HAPC. In October 2011, the Council approved a motion to initiate a discussion paper to review the use of and requirements for VMS in the North Pacific fisheries and other regions of the U.S. The Council stated that while there is uncertainty regarding whether a major change to or expansion of VMS requirements is necessary in the North Pacific, there is interest in reviewing the current state of the North Pacific VMS requirements in addition to other regions' application of VMS. The Council also specified that the Council's IFQ Implementation Committee should review the paper and provide recommendations prior to Council review. Per the Council, the intent of the committee review is to provide depth to the discussion paper, specifically on implementation issues associated with the potential for VMS requirements in the halibut and sablefish IFQ fisheries. In December 2011, the Council recommended that Council review of the discussion paper be scheduled for the April 2012 meeting. The discussion paper includes a description of VMS and its benefits, a review of existing VMS requirements in the North Pacific, a summary of the most recent 2007 Council action related to expanding VMS requirements, a summary of VMS coverage in the North Pacific, cost estimates for VMS, and a review of VMS applications in other regions.

II. Description of VMS

VMS in Alaska is a relatively simple system involving a tamperproof VMS unit, set to report a vessel identification and location at fixed 30-minute intervals to the NOAA Fisheries Office of Law Enforcement (OLE). Some of these units allow NOAA OLE to communicate with the unit and modify the reporting frequency. The Alaska system is relatively simple, because it doesn't require the range of functions that are required for VMS in some other regions of the United States. Moreover, the Alaska system doesn't require the VMS unit to report on the status of other vessel sensors (in addition to the GPS units).

VMS units on a vessel have the following components:

- A power source and power cabling
- A GPS antenna to pick up satellite signals
- The VMS itself – a box about the size of a car radio containing a GPS and VHF radio
- A VHF antenna to transmit the report to a satellite
- A battery
- Cabling between the VMS and both antennas

Some people with VMS units add optional equipment by connecting an onboard computer to the VMS unit. This can significantly enhance communications, and the potential for onboard use of information collected by the VMS. It is, however, not needed to comply with Alaska's VMS standard.

Fishing firms must use VMS units supplied by vendors approved by NOAA OLE. Approval is required to ensure integration of privately supplied VMS units and NOAA OLE data processing capabilities. VMS

transceiver units approved by NMFS are referred to as type-approved models. A list of approved VMS units is available from the NOAA OLE (website at http://www.nmfs.noaa.gov/ole/ak_faqs.html) and is also provided in Appendix 2 along with the cost of the units.

VMS units transmit position information to a communications satellite. From the communications satellite, the vessel's position is transmitted to a land-earth station operated by a communications service company. From the land-earth station, the position is transmitted to the communications service company, which in turn transmits the data to the NOAA OLE processing center. At the center, the information is validated and analyzed before being disseminated for surveillance, enforcement purposes, and fisheries management.

From the VMS data server, the rate at which VMS units send signals can be remotely programmed or altered. Units in Alaska are programmed to report every half hour but can be reprogrammed in response to pre-defined criteria. For example, a vessel can be monitored more frequently. Obviously, more frequent reports mean more data and therefore a more accurate picture of the vessel's activity. NOAA OLE may sometimes program a VMS to report a vessel's position more frequently, for example, if it appears to be operating near a no-transit or no-fishing zone.

Position data is received and stored by NMFS. This data is also sent out to field offices for analysis of vessel activity. VMS is reviewed and analyzed daily, using a range of manual and automated checks. These checks identify such anomalies as vessels failing to send VMS signals or entering closed waters. Manual checks are completed by an operator monitoring the vessel movements on a computer screen. The operator examines vessel tracks, which are overlaid on digitized maps. Automated checks are run at various times over a 24-hour period. They detect instances of possible non-compliance and highlight them for later follow-up by VMS personnel. When an instance of non-compliance is detected, it is referred to field agents or officers for follow-up after assuring all components are functioning properly.

Access to VMS data is gained through a secure, web-based system and viewable on a color chart on a computer monitor. NOAA OLE Special Agents and Enforcement Officers can monitor vessel activity from their computers. In Alaska, there are also two Enforcement Technicians who are tasked with monitoring vessel activity using VMS. In-season managers in the NMFS Alaska Region Sustainable Fisheries Division and U.S. Coast Guard also have access to the VMS data. Information collected under a VMS program is considered confidential and is subject to the confidentiality protection of Section 402 of the Magnuson Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act).

III. Benefits of VMS

Benefits of VMS coverage fall into five categories: (1) enforcement, (2) in-season management, (3) safety, (4) scientific benefits, and (5) other benefits.

VMS can make it possible to leverage existing enforcement efforts. Knowledge about the location of the fleet can make it easier for the law enforcement personnel to enforce a wide range of fishery regulations. Given the increasing complexity of regulations and the need to add special management zones/closed areas, coupled with limited-access permits allowing vessels to fish in certain areas, VMS has become an important tool for enforcement personnel for monitoring vessel compliance with regulations. VMS can also play an important role in monitoring compliance with no-transit zones and no-fishing zones. VMS can help deter smuggling and misreporting of the type of quota share harvested in rationalized fisheries.

VMS is used intensively by in-season managers to determine when to open and close fisheries. VMS provides in-season managers with useful information about the levels of effort active in particular areas at particular times. This has become very useful for gauging how much longer a given TAC will last, and

therefore, how much longer a given fishery may be kept open without either exceeding the TAC, or leaving fish unharvested. Managers can also use VMS information to help determine locations of high incidental catch of prohibited species catch (PSC) and groundfish to inform the fleet where high incidental catch is occurring so the fleets can adjust fishing behavior to reduce incidental catch. Inseason managers also use VMS to assign catch to smaller spatial areas in the NMFS Catch Accounting system and to quality check spatial information reported on fish tickets.

VMS provides a valuable tool for search and rescue efforts in the event of a vessel in distress. While non-reporting of a VMS unit is not an indication of distress, should a search and rescue (SAR) coordinator be made aware of a distress situation, whether by activation of a vessel's EPIRB, a May Day call, or other established method of signaling distress, the SAR controllers can then use VMS to determine the vessel's last known position, and the time of that last position. Often times this will greatly reduce the search area and increase the speed of response as surface and aviation assets can head directly to that last known position without waiting for time-consuming analysis to determine the size of the search area.

A comprehensive use of VMS in Alaska could also be of considerable utility to NMFS and the Council in evaluating the coverage obtained through the restructured observer program. In short, VMS provides tracklines of the activity of fishing vessels polled on some established schedule. Observers, in turn, collect the start and stop locations of all fishing activity when they are on board a vessel. VMS, when available, is currently used to validate the fishing positions provided by observers as a quality control check. In addition, and more importantly, the fishing positions obtained from observed boats can be compared with a comprehensive set of VMS tracklines to evaluate coverage in relation to overall fleet activity. Thus, the spatial and temporal distribution of observer coverage could be evaluated, and gaps in coverage readily identified. This would aid the tuning of observer coverage rates to better meet the information needs of NMFS and the Council.

Finally, spatial data on fishing and the environment is very important for scientific research into the fishery and environmental, social, and economic impacts of fishing related to changes in fishery regulations. Fish stocks, habitat, ecosystem impacts, and social and economic patterns of fishing activity have important spatial dimensions. VMS information is a useful supplement to self-reported spatial information, and to observer reports.

Scientists and economists at NOAA Fisheries Alaska Fisheries Science Center have utilized VMS data for a variety of purposes. The following are example of work that has been done, or is ongoing, utilizing VMS data as ASFC:

- VMS data (total numbers of vessel pings per square area) as a surrogate variable for total fishing effort, in order to examine the spatial and temporal distribution of fishing effort from different gear types in the Bering Sea. These data were used as a supplemental input to modeling Pacific cod tagging data (Liz Conners, per comm.)
- VMS data was used to more precisely identify the fishing tracks of commercial fishing boats. These data, combined with acoustic data collected opportunistically from the pollock fleet, has provided data to study the potential effects of commercial fishing on pollock aggregation dynamics (Steve Barbeaux, per comm.).
- VMS data as part of the Bering Sea Integrated Ecosystem Research Program to assist in identifying when catcher-processor fishing trips start and end from the time period 2003 through 2007 when clear trip-level records are not available (Alan Haynie, pers. Comm.).
- VMS data has also been utilized to look at fishing distribution on a small scale (Craig Rose, pers. Comm.).

To the degree that VMS data can be utilized to identify whether or not fishing is occurring, VMS data can potentially provide a complement to other sources of data about effort in different fisheries and where that effort is occurring.

IV. Previous Council action on this issue

Since 2000, the Secretary of Commerce has introduced VMS requirements or options in connection with several management actions as noted in Table 1. Together, these numerous regulations have created VMS requirements for the groundfish and crab fleets.

Table 1 Description of VMS requirements

Source of VMS requirement	Description of VMS requirement	Regulations
Steller Sea Lion Measures	Vessels in any Federal reporting area that participates in the Atka mackerel, Pacific cod, or pollock directed fisheries.	679.7(a)(18)
EFH/HAPC	All vessels named on an FFP or FCVP when operating in the Aleutian Islands subarea or in adjacent State waters	679.28(f)(6)(ii), 679.7(a)(21)
EFH/HAPC	All vessels named on an FFP or FCVP when operating in the GOA or adjacent State waters with nonpelagic trawl or dredge gear	679.28(f)(6)(iii), 679.7(a)(22)
Rockfish Program	Vessels that are assigned to a rockfish cooperative when operating in a reporting area off Alaska from May 1 until November 15, or until the cooperative has submitted a termination of fishing declaration.	679.28(f)(6)(iv), 679.7(n)(3)(i)
Rockfish Program	Vessels that are subject to a sideboard limit when operating in a reporting area off Alaska from July 1 until July 31.	679.7(n)(3)(ii)
GOA Pacific cod sector splits	A vessel in Federal reporting areas 610, 620, or 630, that receives and processes groundfish from other vessels.	679.28(f)(6)(v)
Sablefish vessel clearance requirement	Any vessel who fishes for sablefish in the BSAI	679.42(l)(1)
Crab Rationalization Program	Any vessel harvesting Crab Rationalization crab	680.7(c)(2), 680.23(a)(1), and 680.23(b)(1)

In June 2005, the Council discussed the VMS issue, in connection with EFH/HAPC related proposals to implement VMS for the GOA. During that discussion, the Council recommended that NMFS develop an analysis and alternatives to address the issue of broader VMS application in the GOA and BSAI in a manner that meets enforcement, monitoring, and safety issues. In response to the Council's request in June 2005, staff prepared a discussion paper for the December 2005 meeting, which included comprehensive implementation alternative, and alternatives that would reduce the burden of VMS requirements on the operators of small vessels, and of commercial fishing vessels that only entered Federal waters with the intent to transit between fishing areas within state waters. At the December 2005 meeting, the Council adopted a purpose and need statement and a list of alternatives for analysis. The purpose and need statement is provided below.

Purpose Statement

1) *To ensure/maximize the viability of the management, monitoring, and enforcement of additional spatial/temporal fishing boundaries and rationalization programs in the most cost-effective and efficient manner possible.*
2) *To enhance the scientific understanding of the impact of fishing activity on the marine environment in the most cost effective and efficient manner possible.*
3) *To permit more cost-effective and productive use of observers.*
4) *To increase the safety of fishing operations.*

Need Statement

The broader application of VMS to meet the increasing management, enforcement, monitoring, scientific, and safety issues caused by the development of additional spatial/temporal fishing boundaries, rationalization programs, and other evolving management and enforcement requirements.

At the February 2006 meeting, preliminary analysis indicated that under the comprehensive implementation alternative, vessels using seine, gillnet, power troll, and hand troll gear to fish for salmon and herring might be required to carry VMS. In some instances, vessels using there gears fished in State managed fisheries in the EEZ. NOAA OLE and the Coast Guard indicated there was little need to monitor movements of these vessels, as long as they didn't have an FFP or operator in Federal waters with other gears. These are not gears that are used to harvest federally-managed species, and they are not gears that may potentially damage bottom habitat in the EEZ. However, the Council determined that the public had not received adequate notice to comment on this alternative, and decided to defer action on modifying the alternative until its April 2006 meeting. At its April 2006 meeting, the Council revised Alternative 2 to include the above clarification and scheduled the action for initial review in October 2006.

At the October 2006 meeting, a draft RIR/IRFA was provided to the Council. During that meeting, the Council (a) adopted a problem statement to accompany the statement of purpose and need, (b) requested the evaluation of new options, and (c) rescheduled the analysis for initial review at its February 2007 meeting. The alternatives and options are provided in Appendix 1.

At the February 2007 meeting, the Council received a preliminary initial review draft. At that meeting the Council decided to postpone indefinitely any further work on a comprehensive VMS program. The Council noted that other tools may be available to address specific problems or enforcement needs for different circumstances, and a comprehensive solution may not be optimal. When this occurred, further analytical work was suspended on all the alternatives and options.

At its April 2007 meeting, the Council requested a discussion paper on VMS requirements in the dinglebar fishery. After the presentation of the discussion paper at the February 2008 meeting, the Council requested preparation of an analysis to exempt the dinglebar gear from VMS requirements. In June 2008, the Council recommended exempting dinglebar fishermen from the VMS requirement. The Council concluded that any risk of illegal fishing in the Cape Ommaney and Fairweather Grounds HPACs was insufficient to justify monitoring by VMS, given the cost imposed on lingcod fishermen. The Council reiterated a previous decision, that the need for VMS monitoring in Council fisheries should be evaluated on a case-by-case basis.

V. VMS coverage

This section provides a brief description of the current VMS coverage in the North Pacific. Table 2 shows the number of groundfish, crab, and halibut vessels that as of 2010 have a VMS unit and the number of

vessels without a VMS unit. Of the total 1,656 groundfish, crab, and halibut vessels, 546 have a VMS unit, while 1,110 do not have a VMS unit. Of those 1,110 vessels that are not equipped with a VMS unit, 346 vessels are less than 30' LOA and 731 vessels range in length from 30' to 59'. The remaining 33 vessels without a VMS unit are greater than or equal to 60'. Note that the data is showing a few large groundfish vessels without VMS, but

Table 2 Vessel count of all North Pacific groundfish, halibut, and crab vessels with and without VMS units in 2010

Vessel length	No VMS	VMS	Total
<30	346	0	346
30-59	731	247	978
60-89	21	96	117
90-124	2	137	139
125-200	0	55	55
200+	0	21	21
Total	1,110	556	1,656

Source: AKFIN Vessel Table and Patty Britza of Sustainable Fisheries

Looking at VMS coverage by fleet, four fleets remain, to a large degree, without VMS units. These fleets are the halibut IFQ, halibut CDQ, GOA sablefish IFQ, and jig. The remaining groundfish and crab fleets are required to have VMS units onboard their vessels. Given that the groundfish and crab rationalized fleets already require VMS, the remaining portion of this section will focus on the small vessel fleets, which include the halibut IFQ, halibut CDQ, GOA sablefish IFQ, and jig fleets.

Table 3 presents the number of vessels with and without VMS grouped into vessel length categories for each of the small vessel fleets. The fleet with largest number of vessels not equipped with a VMS unit is the halibut IFQ group. Amongst this fleet, there are 170 vessels under 30' and 640 vessels ranging in length from 30' and 59' that are not equipped with a VMS unit. For the halibut CDQ fleet, most of the fleet is less than 30' in length and are not equipped with a VMS unit. The sablefish IFQ fleet is generally composed of vessels ranging in length from 30' to 59'. Amongst this fleet, 223 vessels do not have VMS unit and 103 vessels do have VMS unit. The remaining jig fleet also generally falls within the 30' to 59' vessel length group. Amongst this fleet, 56 vessels do not have a VMS unit, while 11 vessels do have a VMS unit.

Table 3 Vessel count of VMS equipped halibut IFQ, halibut CDQ, sablefish IFQ, and jig vessels by length

Fleet	VMS equipped	Vessel length					Total
		<30'	30'-59'	60'-89'	90'-124'	125'-200'	
Halibut IFQ vessels	No	170	640	20	1	0	831
	Yes	0	183	40	6	1	230
Halibut CDQ vessels	No	170	30	0	0	0	200
	Yes	0	8	3	0	0	11
Sablefish IFQ vessels	No	3	223	18	0	1	245
	Yes	0	103	29	12	8	152
Jig vessels	No	10	56	0	0	0	66
	Yes	0	11	0	0	0	11

Source: AKFIN Vessel Table and Patty Britza of Sustainable Fisheries

Table 4 provides a vessel count of halibut IFQ, halibut CDQ, sablefish IFQ, and jig vessels with and without a VMS unit that also have a Federal Fisheries Permit (FFP). Looking at the 831 halibut IFQ vessels that are not equipped with a VMS unit, 390 vessels operate without a FFP, while 441 vessels operate with a FFP. In contrast, those 230 halibut IFQ vessels that operate with a VMS unit, nearly all (227 vessels) have a FFP. For the halibut CDQ fleet, most of these vessels do not carry VMS and do have a FFP. As for the sablefish IFQ fleet, most of these vessels operate with a FFP, but 226 vessels are not equipped with a VMS unit.

Table 4 Vessel count for jig, halibut IFQ and CDQ, and sablefish IFQ fleets with VMS and FFP

VMS	FFP	Fleets			
		Jig	Halibut IFQ	Halibut CDQ	Sablefish IFQ
No	No	48	390	189	19
	Yes	18	441	11	226
Yes	No	4	3	2	2
	Yes	7	227	9	150

Source: AKFIN Vessel Table and Patty Britza of Sustainable Fisheries

Table 5 provides average catch for halibut IFQ and halibut CDQ vessels with and without a VMS unit that are less than a specific vessel length. The vessel length categories are 25’ and under, 30’ and under, and 32’ and under. For the 25’ and under group and the 30’ and under 30’ group, no halibut IFQ vessels or halibut CDQ vessels were equipped with VMS, so there was no average catch to report. Looking first at the 25’ and under group, the average catch was 3,604 pounds for halibut IFQ vessels, while the average catch for halibut CDQ vessels averaged 1,847 pounds. For vessels 30’ and under, the average catch for halibut IFQ vessels was 6,407 pounds, while the average catch for halibut CDQ vessels was 4,880 pounds. Finally, for the 32’ and under vessels, the average catch for halibut IFQ without VMS was 12,548 pounds, while the average catch for halibut IFQ with a VMS unit was 52,211 pounds. For halibut CDQ vessels that are 32’ or less without a VMS unit was 6,365. There were no 32’ and under halibut CDQ vessels that were equipped with a VMS unit, so there was no average catch to report.

Table 5 Average catch (lbs) by length for the halibut IFQ and halibut CDQ fleets

VMS	Vessel length	Halibut IFQ	Halibut CDQ
No	**< = 25'**	3,604	1,847
Yes	**< = 25'**	0	0
No	**< = 30'**	6,407	4,880
Yes	**< = 30'**	0	0
No	**< = 32'**	12,548	6,365
Yes	**< = 32'**	53,211	0

Source: AKFIN Vessel Table and Patty Britza of NMFS Sustainable Fisheries

VI. Estimated cost of VMS

VMS costs for operations are expected to fall into the following categories:

- Purchase and freight
- Installation charges
- Initiation fee, if any
- Sale taxes

- NOAA OLE notification
- Transmission costs
- Maintenance costs
- Lost fishing time due to unforeseen breakdowns
- Replacement cost

It is difficult to estimate the average costs of installing and operating VMS. The fleet is diverse, and there are a variety of VMS packages available. Currently, there are 4 NOAA-approved VMS units available for use in the Alaska region. There is no quantitative information about the extent to which fishermen are paying list, or a negotiated sale price, the time requirements for installation, the nature of the transmission packages they are buying, or the average number of days or months they are transmitting. Average cost estimates are summarized in Table 6.

Table 6 Average cost of VMS

Base unit cost with data terminal	$2,971
Installation	$239
Brackets	$60
Initiation fee (with satellite service provider)	$150
Notify NOAA OLE	$11
Sales taxes	$108
Total acquisition and installation w/out reimbursement	**$3,539**
Transmission costs for one year for two poll per hour	$815
Maintenance and repairs for one year	$77

Note: Unit costs are from survey of NOAA approved VMS units available in the Alaska region. Installation and maintenance costs originated from the VMS exemption for dinglebar fishermen analysis dated March 31, 2009.

NOAA does have a current VMS reimbursement program that is jointly managed by NOAA and the Pacific States Marine Fisheries Commission, but that is subject to future appropriations. This program provides for reimbursement of a maximum for $3,100 per unit and covers the cost of the VMS transmitter unit. To be eligible for reimbursement, vessel owners/operators must purchase an approved VMS unit and have it installed on their vessel and activated. Upon completion of the installation and activation, the vessel owner/operator must contact the VMS Support Center to ensure the vessel is properly registered in the VMS system. Once this completed, NOAA OLE will issue the vessel a number that the vessel operator then includes on their reimbursement application with the Pacific States Marine Fisheries Commission. This reimbursement does not cover costs associated with tax, labor, and installation.

VII. Enforcement costs

Given the reduction in enforcement budgets for both U.S. Coast Guard and NOAA OLE, it becomes more critical to leverage the technological means of surveillance and locating fishing fleets across the entire North Pacific. For example, IFQ halibut vessels, which make up approximately 64% of the total groundfish, crab, and halibut fishing vessels in Alaska waters and is the single largest fishery by number of vessels in Alaska, operates almost entirely without VMS. Given these vessels are only permitted to fish in certain areas because of area-specific TACs, the enforcement and monitoring of the IFQ halibut fleet is costly. The U.S. Coast Guard cost for monitoring and enforcing the IFQ halibut and sablefish fleet was approximately $17 million in 2011 (see Appendix 3 for calculations). With VMS, monitoring of the IFQ halibut and sablefish fleets would greatly enhance the ability of both the U.S. Coast Guard and NOAA OLE to monitor these vessels to ensure they are operating in compliance with their permits. While requiring all IFQ vessels to have operational VMS units will not result in a reduction in enforcement

expenditures, VMS units on all IFQ vessels will greatly enhance the efficiency of U.S. Coast Guard operations by reducing the time spent searching for vessels and vectoring in U.S. Coast Guard cutters for boardings. With a more efficient monitoring of the IFQ fleets, the U.S. Coast Guard and NOAA OLE could focus on monitoring and enforcement of other fleets that have had historically low enforcement contact rates due to the necessity of using limited assets and time on high precedence fisheries. This results in both more effective enforcement and monitoring for the IFQ fleets, and leveling out the enforcement and monitoring assets across the entire North Pacific fishing industry.

VIII. Alternative tools to VMS

An alternative tool to VMS is Automated Information System (AIS). This alternative to VMS could provide some of the location information that is provided by VMS, but there are significant issues with this system as the information is not protected. Because anyone can get access to AIS information, many fishermen turn their AIS unit off while they are fishing to protect their fishing locations from their competitors. In addition, AIS is not a satellite based system, so it is contingent upon line of sight communications and receive locations. There are currently not enough AIS receivers around the state to provide accurate fishing locations. U.S. Coast Guard type approved AIS units range in price from $500 for an AIS Class B transponder to $4,000 for an AIS Class A transponder, not including installation. Costs vary greatly for installation due to the differences in vessel configuration and level of integration necessary for other shipboard systems.

IX. VMS requirements in other regions

The Council requested a review of the VMS applications in other regions. However, due to the way VMS is implemented, it is more appropriate to review the VMS applications from the six NOAA regions. These regions are the Northeast, Southeast, Southwest, Northwest, Alaska, and Pacific Islands.

The Northeast region encompasses all EEZ waters from Maine south to North Carolina, and includes the boundaries of both the New England Fishery Management Council and the Mid-Atlantic Fishery Management Council. VMS coverage in this region is the most comprehensive of any NOAA region. Fishing vessels are required to carry an operational VMS if they are operating in the following fisheries: scallop, monkfish, surfclam, ocean quahog, Maine mahogany quahog, and herring. With the exception of the scallop fishery, vessels in these fisheries must transmit a VMS signal once an hour. Vessels in the scallop fishery must transmit at least twice per hour. Vessels may power down their VMS units if (a) the vessel will be continuously out of the water for more than 72 hours and the vessel is issued and has onboard a NMFS letter of exemption, or (b) the vessel has a limited access permit and signs out of the VMS program for a minimum of 30 consecutive days, does not engage in any fisheries, and the vessel is issued and has onboard a NMFS letter of exemption. Prior to crossing the VMS demarcation line, generally defined as the state water boundary, vessels must declare on their VMS units targeted species, gear, and area to be fished. Vessels are not permitted to change this declaration while outside the VMS demarcation line. For fisheries that do not require VMS, vessels already carrying VMS must continue to broadcast position information in these other fisheries, but do not require target species, gear, or fishing area.

Figure 1 shows an example of a VMS snapshot in the Northeast region (a color version is on the last page of this document). The figure shows one position per vessel, color-coded to the vessel's activity. Each color represents a different fishery. The benefit of the color codes is that enforcement personnel can get a quick view of where the various fleets are located in relationship the areas where fishing is permitted and the authorized gear.

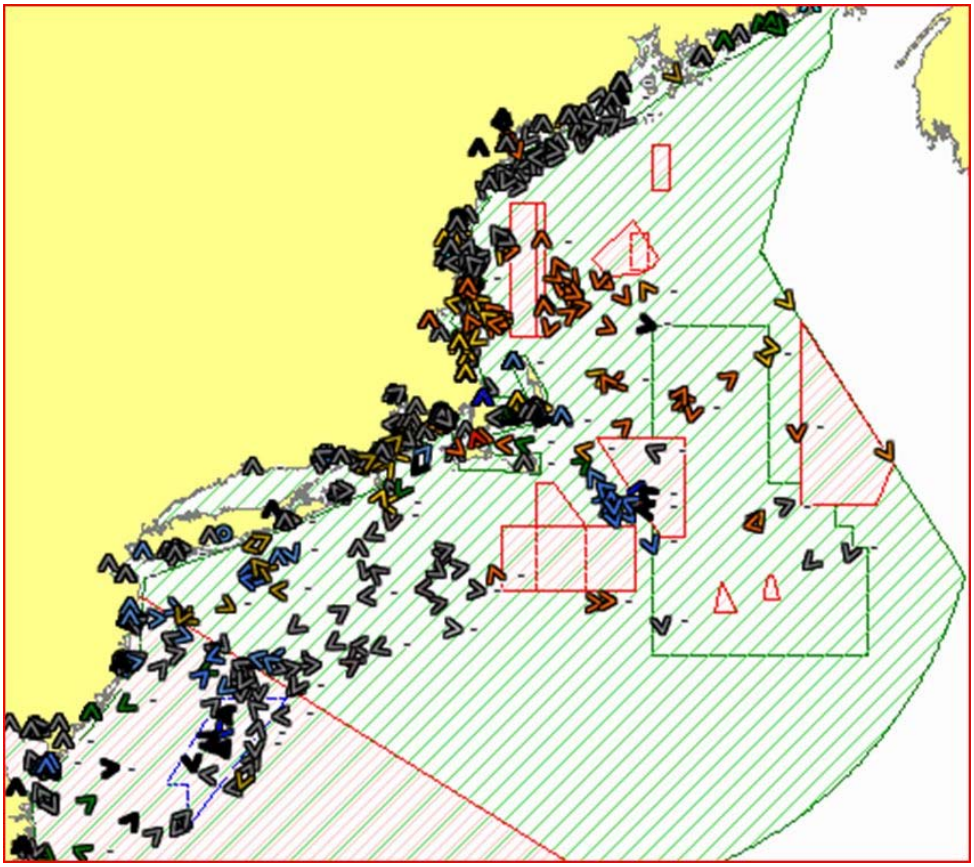

Figure 1 VMS snapshot in the Northeast region

The Southeast region extends from the North Carolina through the Gulf of Mexico to the Southern border of Texas. This region also includes U.S. territories of Puerto Rico and the U.S. Virgin Islands. Vessels required to carry VMS in this region include vessels ranging in length from 12' to 145' LOA that participate in the following fisheries:

- Gulf of Mexico commercial reef fish fishery
- Pelagic longline fishery for highly migratory species
- Shark fishery using gillnet and nonpelagic longline gear
- South Atlantic rock shrimp trawl
- A sample of vessels (about 550 of 1600) in the off-shore Gulf of Mexico shrimp fishery have VMS devices used to estimate effort
- Penalty fishery – vessels required to use VMS because they have violated fishery regulations

The Northwest region covers the states of Washington, Oregon, and California. VMS in this region is required on any fishing vessel in federal waters that takes, retains, or transports groundfish. This requirement applies to any size vessel ranging in length from 17.5' to 308' LOA, which includes skiffs that carry small waterproof boxes to house the VMS unit. VMS declarations include gear type used and area.

The Pacific Islands region covers the waters around the Hawaiian Islands, and the Western and Central Pacific. Noted as the first region to require VMS dating back to the mid-1980s, VMS units are on vessels ranging in length from 41' to 260' LOA in the U.S. fisheries of the Western and Central Pacific, which are

mostly longline vessels with a few bottom fishing vessels operating in the Commonwealth of the Northern Mariana Islands. Additionally, vessels permitted to operate in the Northwest Hawaiian Islands Monument are required to have an operational VMS unit. Information gather from the VMS units in this region are the most basic, providing vessel name, position, date, and time.

Appendix 1

Alternative 1 *– no action*

Alternative 2 *– Require a transmitting VMS on any federally permitted vessel, and on any vessel with IFQ and/or CDQ halibut and/or sablefish on board, when it is operating in the EEZ or adjacent state waters. A federally permitted vessel would include vessels named on a Federal fisheries permit or on a Federal crab vessel permit. A transmitting VMS would also be required on any other commercial fishing vessel that operates in the EEZ with authorized fishing gear (other than hand troll gear, power troll gear, and troll gear, but including dingle bar gear).*

Alternative 3 *– Vessel are subject to the requirements of Alternative 2, except that they are not required to have a transmitting VMS when operating in a State-managed fishery in State waters, unless a transmitting VMS is required under another federal program. For the purpose of this alternative, a State-managed fishery means a fishery in which the landings are not counted against a Federal total allowable catch.*

Alternative 4 *– Vessels are subject to the requirement of Alternative 3, except for vessels which are subject to the VMS requirement because they have IFQ and/or CDQ halibut and/or sablefish on board, and that fish only in State waters.*

Options *– may apply to alternatives two to four:*

Smaller operation exempts:

- *Vessels less than a certain length overall (LOA) would be exempted from VMS requirements. Options include (1) less than 25 feet (2) less than 30 feet, and (3) less than 32 feet LOA.*
- *Allows for phased implementation where vessels over 32 feet LOA would be required to have VMS in 2007 and vessel equal to or less than 32 feet LOA by 2008.*
- *Vessels with minimal annual landings of halibut IFS and CDQ below the thresholds of 1,000, 5,000, and 10,000 pounds.*
- *Vessels with minimal annual landings of sablefish IFQ and CDQ below the thresholds of 1,000, 5,000, and 10,000 pounds.*
- *Vessels deploying dinglebar gear exempt.*
- *Troll fishermen operating in Federal waters who keep legal IFQ halibut as bycatch in their fishery are exempt.*

Transit exemptions:

- *Vessels with an FFP, operating in the EEZ, without authorized gear on board (other than hand troll gear, power troll gear, and troll gear, but including dingle bar gear) are exempt.*
- *Fishing vessels not required to have a FFP would not be required to have a transmitting VMS on board if the vessel operator (a) transits the EEZ with their fishing gear stowed; and, (b) notifies the USCG and NOAA OLE of their intent to simply transit the EEZ (a new check-in/check-out requirements).*

Appendix 2

Estimated costs for VMS installation and monthly monitoring in the Alaska Region: There are currently 4 NOAA type approved VMS units available for use in the Alaska Region, although as of July, 2011, no new installations of the GMPCS Thrane & Thrane Sailor TT-3026D VMS Gold are authorized by NOAA. For consistency, these units have been included in the pricing analysis to give the council an overview on cost ranges for these units.

1. CLS America Thorium VMS TST retails for $3095, and includes the VMS Satellite unit, junction box, and data terminal. CLS America has two standard rate packages with 1 poll/hour costing $45 per month, and 2 polls per hour costing $55 per month. They also offer additional data rates for e-mail and other data transfers at a rate of $1.75 per kilobyte. (As per phone conversations with Michael Kelly at CLS America.)

2. Faria WatchDog 750VMS retails for $3195 and includes the messaging terminal. This company does not base their rates on number of VMS polls per hour, but rather on the number of bytes of information sent. The basic service is 12,000 bytes per month for $40.00, and the average poll size for vessels in Alaska is 10 bytes. For 1 poll per hour, every day in a 31 day month, this would equate to about 7440 bytes, leaving a buffer of 4560 bytes for e-mails or other data transfers. The company also has a second data package available for 20,000 bytes per month at a rate of $54.52. At a poll rate of 2/hour, this would equate to 14,880 bytes of information, with a 5120 byte buffer for additional data transmissions. Vessels requiring more data transmission than this are charged additional fees at a rate of $1.70 per 1000 bytes, so even a 10,000 byte overage would only cost $17. (Based upon phone conversations with Peter Harpon, on 16 Feb 2010.)

3. GMPCS Thrane & Thrane Sailor TT-3026D VMS Gold is no longer approved for new installations as of July 2011, but is included here for comparison as one of the type approved units for the Alaska Region. The VMS unit with data terminal costs $2495, and each data report costs $0.06. One position report per hour costs $44 per month, and 2 position reports per hour costs $88 per month. The company also charges $1.05 per 175 character e-mail. http://www.nmfs.noaa.gov/ole/docs/2011/07/noaa_fisheries_service_type_approved_vms_units.pdf)

4. Skymate/Orbcomm's Stellar ST2500G with closed Dell Laptop costs $3100. Like Faria, Skymate does not charge based upon VMS polls per hour, but bases their rates on the number of characters sent. The standard position report in Alaska is 20 characters in length. Although they offer Silver, Gold, and Platinum data plans, the Silver plan does not provide for enough characters to be valid for current VMS reporting guidelines for the Alaska Region. The Skymate Gold plan costs $38.99 per month for 20,000 characters. Given the 20 character position report for the region, 1 poll per hour for a 31 day month would equal 14,880 characters, allowing for some room for other data transfers within the guidelines of the data plan. For every 1000 characters over this plan's allotment, the vessel is charged an additional fee of $1.90. The Skymate Platinum plan costs $73.99 per month for 50,000 characters. A poll rate of two position reports per hour for a 31 day month would result in usage of 29,760 characters, providing a significant buffer for additional data use. Vessels are charged an additional fee of $1.40 for every 1000 characters over those allotted to this service plan. (Based upon a phone conversation with Lindsey.)

Below is a table showing cost comparison for the VMS units with average costs for the different units and polling rates.

Company	Base Unit cost with Data Terminal	1 poll/hr. $/month	Annual Cost for 1 poll/hr.	2 polls/hr. $/month	Annual Cost for 2 polls/hr.	Additional Data Cost/KB
CLS American Thorium	$3,095.00	$45.00	$540.00	$55.00	$660.00	$1.75
Faria WatchDog	$3,195.00	$40.00	$480.00	$54.52	$654.24	$1.70
GMPCS Thrane & Thrane	$2,495.00	$44.00	$528.00	$88.00	$1,056.00	$2.70
Skymate/Orbcomm (Gold Plan)	$3,100.00	$38.99	$467.88			$1.90
Skymate/Orbcomm (Platinum Plan)	Same as Gold above			$73.99	$887.88	$1.40
Average Cost	$2,971.25	$42.00	$503.97	$67.88	$814.53	$1.89

Appendix 3

Coast Guard Methodology and Assumptions for IFQ Enforcement Costs

The following is a description of the methodology and assumptions used to arrive at the sum of $17 million. It should be noted that these are very conservative numbers, and the actual cost is likely much higher due to the amount of time it takes for cutters and aircraft to locate these vessels to conduct a boarding.

Asset hours

The Coast Guard maintains a database of hours used by the various platforms by mission type. Domestic fisheries law enforcement is listed in this database as ELT FISH DOM. This database was used to determine hour usage by major asset type in the 17th Coast Guard District for calendar year 2011.

Aviation Assets and Assumptions

All aircraft resource hours assigned to the mission category "ELT FISH DOM" (Enforcement of Laws and Treaties Fish Domestic) by aviation units operating in the Seventeenth Coast Guard District from March 2011 – October 2011 were pulled from the Coast Guard Business Intelligence (CGBI) database.

Since IFQ Halibut and Sablefish boardings make up 40% (335 out of 833) of the Coast Guard's total fishing vessel boarding goals under the "ELT FISH DOM" resource hour category, we have assumed that 40% of the hours assigned to this resource hour category were used towards enforcement of IFQ Halibut and Sablefish goals. Therefore, to calculate the total USCG expenditures for each resource type, we multiplied the number of resource hours expended by the in government reimbursable rate, and multiplied this value by .40 to arrive at the total cost per asset type. The result is a fairly conservative cost assumption, as the lack of VMS data for most IFQ vessels results in a significantly more time spent in locating vessels targeting IFQ species compared to other fisheries.

Cutter Assets and Assumptions

Coast Guard cutter enforcement generally falls into four classes of vessels, High Endurance Cutters (HECs), Medium Endurance Cutters (MECs), Patrol Boats (WPBs), and Buoy Tenders (WLBs). For all cutters with the exception of WPBs, boardings of IFQ Halibut or Sablefish vessels were tallied for each of the types in calendar year 2011. We applied a 5 hour time period for each of these boardings to account for patrol time to locate the fishing vessel, conduct pre-boarding questions, and complete the vessel boarding. This 5 hour estimate is a conservative assumption as cutters often expend many more resource hours towards IFQ enforcement goals without conducing any boardings due to the large temporal and spatial span of the IFQ Halibut and Sablefish fisheries, poor weather conditions and other factors that hamper enforcement efforts.

WPB's are the workhorses of our afloat IFQ enforcement efforts. Since IFQ Halibut and Sablefish are the only federally managed fisheries in Southeast Alaska, the three WPBs that work for Sector Juneau spend nearly all of their time searching for and boarding IFQ vessels. As such, we estimate that 90% of the "ELT FISH DOM" hours expended by Sector Juneau WPBs are being used for IFQ enforcement. Sector Anchorage WPBs split time between IFQ efforts and other federally managed fisheries in the Gulf of Alaska. Therefore, we have estimated that 50% of the "ELT FISH DOM" hours expended by Sector Anchorage WPBs are used for IFQ enforcement.

Base Unit Costs

The cost for enforcement of the IFQ fisheries is based upon first obtaining a standard rate for each of the platform types used to patrol, locate, and board IFQ vessels. The cost/hour for each of our platform was taken from the Coast Guard COMMANDANT INSTRUCTION 7310.1M, Coast Guard Reimbursable Standard Rates, current as of 31 August 2011. The standard in government reimbursement rates for Coast Guard assets in the Seventeenth District who conducted IFQ enforcement are as follows:

Platform Type	**In Government cost $/hour**
C-130 Aircraft	$14,439
H-60 Helicopter	$11,251
H-65 Helicopter	$8,640
High Endurance Cutter (WHEC and WMSL)*	$12,974
Medium Endurance Cutter (WMEC)	$12,876
Buoy Tender (WLB)	$6,301
Patrol Boat (WPB)	$3,105

*Note – As there is currently no standard rate listed for the WMSL, our new National Security Cutters, we have assumed the cost for these large cutters to be equivalent to the High Endurance Cutter.

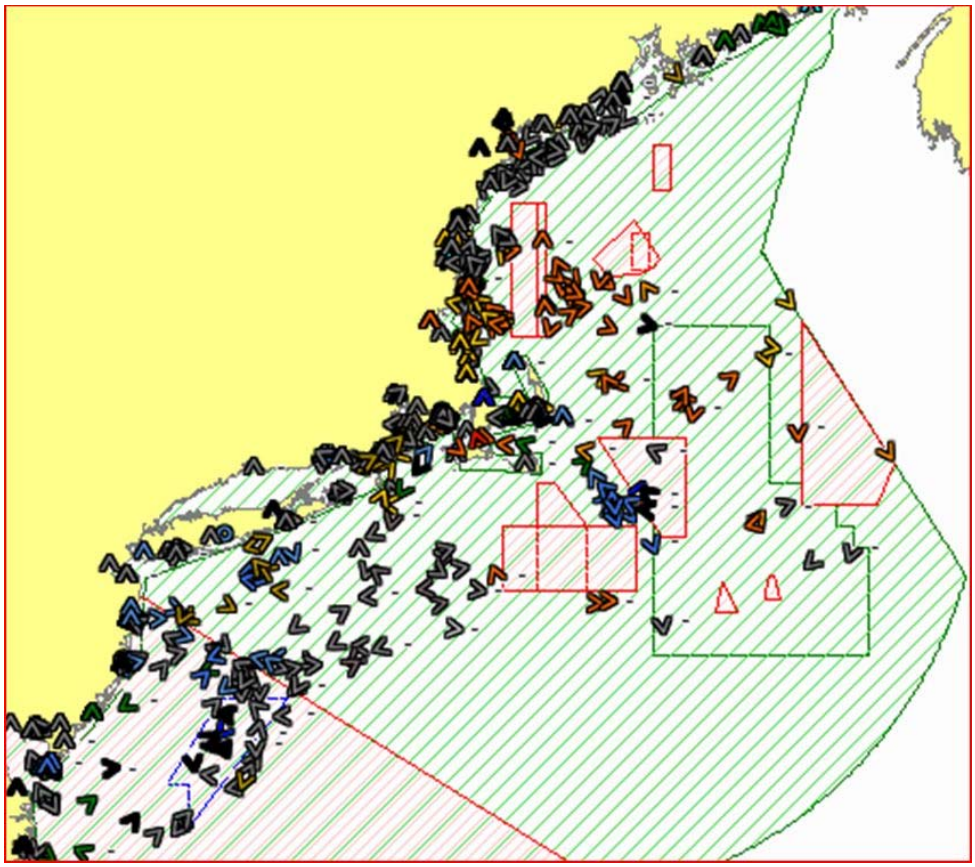

Figure 2 VMS snapshot in the Northeast region