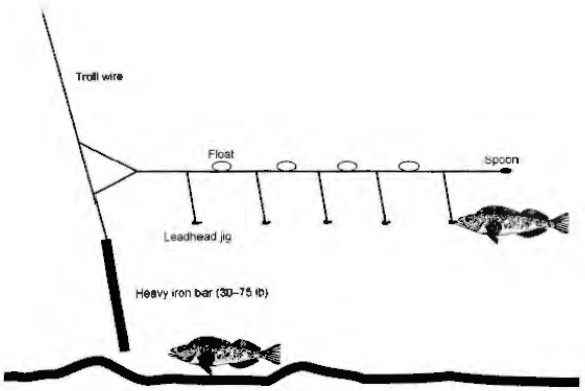
Regulatory Amendment to Exempt GOA Dinglebar Fishermen from a VMS Requirement

Environmental Assessment/
Regulatory Impact Review/
Final Regulatory Flexibility Analysis

December 2008



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Abstract: This document contains an Environmental Assessment (EA), a Regulatory Impact Review (RIR), and a Final Regulatory Flexibility Analysis (FRFA) analyzing an action to repeal requirements that vessels with Federal fishing permits and dinglebar gear on board (a type of troll gear) in the Gulf of Alaska carry transmitting VMS units. The analyses in this document address the requirements of the National Environmental Policy Act (NEPA), Executive Order 12866, and the Regulatory Flexibility Act (RFA).

Note: This version has been revised to correct an error in Table 5 on page 35. The correction is described in the table footnote.

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List of Acronyms

ABC	Allowable Biological Catch
ADCED	Alaska Department of Community and Economic Development
ADF&G	Alaska Department of Fish and Game
AFA	American Fisheries Act
AFSC	Alaska Fisheries Science Center
AKFIN	Alaska Fisheries Information Network
AP	Advisory Panel
APA	Administrative Procedure Act
B	Biomass
BiOp	Biological Opinion
BS	Bering Sea
AI	Aleutian Islands
BSAI	Bering Sea and Aleutian Islands
CDQ	Community Development Quota
CEQ	Council of Environmental Quality
CEY	Constant Exploitation Yield
CFEC	Alaska Commercial Fisheries Entry Commission
CFR	Code of Federal Regulations
Council	North Pacific Fishery Management Council
CP	catcher-processor
CV	catcher vessel
DFA	Directed Fishing Allowance
DFL	Directed Fishing Level
EA	Environmental Assessment
EIS	Environmental Impact Statement
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
ESA	Endangered Species Act
F	Fishing mortality rate
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impact
FR	*Federal Register*

FRFA	Final Regulatory Flexibility Analysis
GOA	Gulf of Alaska
FRFA	Final Regulatory Flexibility Analysis
HAPC	Habitat Area of Particular Concern
IFQ	Individual Fisherman=s Quota
ITAC	Initial Total Allowable Catch
IRFA	Initial Regulatory Flexibility Analysis
MSST	Minimum Stock Size Threshold
MSY	Maximum Sustainable Yield
mt	metric ton
NEPA	National Environmental Policy Act
LOA	Length overall
nm	nautical mile
NMFS	National Marine Fishery Service
NOA	Notice of Availability
NOAA	National Oceanographic and Atmospheric Administration
OFL	Overfishing Level
OY	Optimum Yield
PSC	Prohibited Species Catch
PSQ	Prohibited Species Quota
PSEIS	Programmatic Supplemental Environmental Impact Statement
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
SAFE	Stock Assessment and Fishery Evaluation Report
SBREFA	Small Business Regulatory Enforcement Fairness Act
SEIS	Supplemental Environmental Impact Statement
SSC	Scientific and Statistical Committee
TAC	Total Allowable Catch
USFWS	United States Fish and Wildlife Service

Executive Summary

Introduction

Vessel monitoring system (VMS) requirements were imposed on vessels in the Gulf of Alaska with Federal fishing permits (FFPs) and with dinglebar gear on board, effective July 28, 2006, to help enforce the GOA Coral Habitat Protection Areas, closure areas meant to protect certain types of bottom habitat from gear damage. Dinglebar gear is a variant of troll gear, and has a long, heavy, iron bar attached to the line to keep the hooks close to the bottom. It is used in the fishery for lingcod, off of the coast of Southeast Alaska, and was believed to be capable of damaging bottom habitat because it is mobile and the heavy iron bar makes the gear contact the bottom.

All federally permitted vessels are prohibited from anchoring or fishing with bottom contact gear in the GOA Coral Habitat Protection Areas, which encompass five areas near the Fairweather Ground and off Cape Ommaney, covering a total area of 13.5 square nautical miles. Dense thickets of *Primnoa* sp. coral have been identified in these areas by NMFS and the Alaska Department of Fish and Game (ADF&G) during survey work using submersible dives. These living habitat structures grow very slowly, are sensitive to disturbance by any bottom contact gear and anchoring, and have long recovery times. The closure areas are relatively small areas dispersed over a large section of the exclusive economic zone (EEZ), making surveillance by enforcement vessels or aviation patrols difficult with existing resources. VMS requirements make it possible to track vessel positions in real time with a high degree of accuracy. Because of this, they are very helpful in enforcing management regulations designed to limit transit or fishing in defined areas.

Lingcod is not a species covered in the Fishery Management Plan for Groundfish of the Gulf of Alaska (FMP). This fishery is managed by the State of Alaska. However, rockfish are caught and retained as bycatch in lingcod fisheries; rockfish are covered under the GOA groundfish FMP, and a Federal fishing permit is required to harvest and retain rockfish. The VMS requirement is consequently required for the lingcod fishery. The requirement is controversial, however, because of the small scale of this fishery (small numbers of operators, small size of the vessels, short period of the fishery, and relatively small revenues generated), and because preliminary evidence suggested that the fishery occurs at shallower depths than those at which the protected coral species are found.

Purpose and Need

The Council requested a discussion paper to examine this issue in April 2007, and in February 2008 passed a motion initiating this analysis. The VMS requirement incurs operating costs, both for initial purchase and installation, and annual transmission and maintenance costs, to dinglebar fishermen prosecuting the lingcod fishery. It is possible, however, that dinglebar fishermen have no incentive to fish in the protected HAPCs. As a result, the VMS enforcement requirement may be an unnecessary burden to the participants. Typically, the fishery occurs in shallower areas than is encompassed by the protected HAPCs.

The Council formulated the following problem statement to initiate this analysis:

> *Dinglebar fishermen fishing for lingcod are required to carry VMS to enforce regulations to prohibit fishing in HAPC. However, the threat they pose to Gorgonian corals protected within HAPC may be small, and insufficient to justify the costs of VMS. For example, log book evidence suggests that most dinglebar fishing takes place at average*

depths above 50 fathoms. Other evidence suggests that most of the protected HAPCs occur below 80 fathoms.

Alternatives

The alternatives, as revised by the Council in April 2008, are as follows:

Alternative 1 Status quo; no change in current regulations

Alternative 2 Exempt dinglebar fishermen from the VMS requirement (Preferred)

The Council adopted Alternative 2 as its preferred alternative at the June 2008 Council meeting. After reviewing the analysis, the Council concluded that any risk of illegal fishing in the Cape Ommaney and Fairweather Grounds HAPCs 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. Consequently, the VMS exemption recommended in this action applies specifically to dinglebar gear with respect to the five Coral Habitat Protection Area HAPCs currently identified in the GOA. Should the Council identify new GOA HAPCs in the future, the need for VMS monitoring for all gear types will be examined with respect to those areas.

Impacts of the Alternatives

Elimination of the VMS requirement for vessels fishing with dinglebar gear is only likely to affect essential fish habitat and socio-economic factors. The alternatives have the potential to affect these resource components through alternatives that could end effective enforcement of the restricted no-fishing zones for dinglebar gear, and change the cost of operating in the dinglebar fishery. Environmental impacts are discussed in Section 4.

With respect to the analysis of essential fish habitat impacts, logbook data on fishing depth and area data from VMS of the 2007 dinglebar fishery were analyzed to examine to what degree overlap occurs or is likely to occur between the protected areas and the fishery. In 2007, the VMS information indicates that fishermen were fishing in the vicinity of, but not in, areas closed to fishing. Activity in those areas, of course, would have been illegal, and the VMS units themselves may have provided a deterrent effect.

Based on the logbook data for the last ten years, most dinglebar lingcod fishing takes place at average depths of less than 50 fathoms. Since these are self-reported average depths, the actual fishing depth may vary from these records. In the last five years, no fishing has been reported at depths greater than 80 fathoms, and no more than 6% of the reported average fishing depths occurred below 50 fathoms. The bottom habitat in the protected areas is generally deeper than typical fishery depths. Of the five prohibited zones that comprise the GOA Coral Habitat Protection Areas, about 0.5% of Fairweather FN1, about 9% of the Fairweather FN2 and about 14% of Fairweather FS1 are above 80 fathoms.

In addition to the logbook analysis, 2007 VMS data were correlated with information about bottom habitat to determine whether or not vessels were operating in areas that were similar to those in which fishing was prohibited. The fishery primarily occurs in a shallower area of folded sandstone, while information about the protected areas suggests the habitat consists of bedrock and glaciated sedimentary rock. Additionally, although there are shallower pinnacles encompassed within one of the Fairweather restricted areas (FN2), apparently similar pinnacles are evident in the areas open to fishing, but the fishery did not occur in these areas.

Based on this discussion, the analysis concludes that there does not appear to be much incentive to fish dinglebar gear in the restricted areas, even in the absence of the VMS requirement. Neither of the alternatives is expected to have a significant adverse impact on the protected habitat. Alternative 2, the preferred alternative, does, however, have adverse impacts, as it reduces barriers to fishing the protected areas.

The impacts on the socio-economic environment are analyzed in the Regulatory Impact Review (Section 7) and the Final Regulatory Flexibility Analysis (Section 8). The primary impact of Alternative 2, the preferred alternative, would be a reduction in the costs of operating VMS for the vessels involved and for society.

The following table summarizes the impacts each alternative would have on groundfish target fisheries, enforcement, fishery management, and the Observer Program.

	Alternative 1: no action	**Alternative 2 (Preferred): Exempt dinglebar gear from the VMS requirement.**
Does the alternative accomplish the objectives for this action? These are: • Prevent damage to corals from the use of dinglebar gear • Ensure regulations are applied without imposing undue costs on fishermen using dinglebar gear.	The status quo provides the most protection for the HAPC where fishing with bottom contact gear is prohibited, because VMS is used for enforcement. However, there is a question about whether dinglebar fishermen would have an incentive to operate in these areas, in the absence of the VMS. It imposes recurring costs on dinglebar fishermen, although whether these constitute "undue costs" is unclear.	This alternative provides less protection for HAPC, since VMS would no longer be used for enforcement. This alternative reduces the costs faced by fishermen.
Costs of the alternative	No change - Baseline.	The protected HAPC has important ecosystem functions, and takes a long time to recover from damage. There is no scientific information on the impact of dinglebar gear on this habitat. Some fishermen indicate that they do not tend to fish this gear on the bottom, but acknowledge that it can come in contact with the bottom. It has been asserted that bottom contact is common in this fishery. There is no scientific information on this issue. Fishermen may not have an incentive to fish in the protected HAPCs. In the absence of such an incentive, VMS units would not be needed in an enforcement or deterrent role, although the Coast Guard advocates VMS for vessel safety reasons. While there would be an adverse impact on HAPC, the EA determined that it would not be significant.
Benefits of the alternative	No change - Baseline.	Expected industry cost avoidance, on the order of about $630 a year per vessel. Aggregate social costs (which include the cost of public subsidies) may range from $9,500 to $12,100, and are more likely in the lower half of this range.
Net benefit to the Nation of the alternative	No change - Baseline.	Because it is impossible to provide quantitative estimates of the incremental contribution of the VMS requirement to the present value of the ecosystem services provided by the protected coral habitat, it is impossible to provide a net benefit estimate.

1 Introduction

Vessel monitoring system (VMS) requirements were imposed on vessels in the Gulf of Alaska with Federal fishing permits (FFPs) and with dinglebar on board, effective July 28, 2006, to help enforce area closures meant to protect certain categories of bottom habitat from gear damage. Dinglebar gear is used in the fishery for lingcod off of the coast of Southeast Alaska. VMS requirements make it possible to track vessel positions in real time with a high degree of accuracy. Because of this, they are very helpful in enforcing management regulations designed to limit transit or fishing in defined areas. However, this VMS requirement is controversial, because of the small scale of this fishery.

This document is an Environmental Assessment/Regulatory Impact Review/Final Regulatory Flexibility Analysis (EA/RIR/FRFA). An EA/RIR/FRFA provides assessments of the environmental impacts of an action and its reasonable alternatives (the EA), the economic benefits and costs of the action alternatives, as well as their distribution (the RIR), and the impacts of the action on directly regulated small entities (the FRFA). This EA/RIR/FRFA addresses the statutory requirements of the National Environmental Policy Act (NEPA), Presidential Executive Order 12866, and Regulatory Flexibility Act (RFA). An EA/RIR/FRFA is a standard document produced by the Council and the NMFS Alaska Region to provide the analytical background for decision-making.

1.1 Background

In February 2005 the Council adopted amendments revising five FMPs by identifying essential fish habitat (EFH) and habitat areas of particular concern (HAPCs) and authorizing protection measures. The amendments to the groundfish, scallop, crab, and salmon FMPs were implemented July 28, 2006[1] (71 FR 36694; June 28, 2006).

The Council's action incorporated three elements that protected different classes of areas in the Gulf of Alaska (GOA). First, EFH amendments established ten GOA Slope Habitat Conservation Areas where fishing for groundfish by federally permitted vessels with nonpelagic trawl gear would be prohibited. These areas were identified based on the likely occurrence of high relief corals and rockfish in these lightly fished areas. As noted in the proposed rule for this action, the EFH environmental impact statement indicated that nonpelagic trawl gear has the largest impact on this habitat (71 FR 14473; March 22, 2006).

The second element identifies and manages HAPCs within EFH. Anchoring and fishing with bottom contact gear is prohibited in fifteen Alaska Seamount Habitat Protection Areas. Fourteen of these areas are located in the GOA. These areas were identified for this level of protection by NMFS, industry representatives, and environmental organizations during the HAPC identification process. Bottom contact gear and anchoring restrictions for these areas are needed because the areas contain especially diverse and fragile living habitat structures that are particularly sensitive to the impacts of bottom contact gear and anchoring, and have long recovery times once damaged. Seamounts contain unique oceanographic and living habitat features that are important habitat for fish (71 FR 14473; March 22, 2006).

[1] The specific amendments and FMPs were Amendments 78 and 65 to the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Islands Management Areas, Amendments 73 and 65 to the FMP for Groundfish of the Gulf of Alaska, Amendments 16 and 12 to the FMP for Bering Sea/Aleutian Islands King and Tanner Crabs, Amendments 7 and 9 to the FMP for the Scallop Fishery off Alaska, and Amendments 7 and 8 to the FMP for Salmon Fisheries in the Exclusive Economic Zone off the Coast of Alaska.

Neither of these first two elements requires restrictions on dinglebar fishing. They either deal with non-pelagic trawling, or they restrict operations on the seamounts, where dinglebar fishing does not take place. However, the third element established the GOA Coral Habitat Protection Areas where all federally permitted vessels are prohibited from anchoring or fishing with bottom contact gear. Four of these areas are located on the Fairweather Grounds and one is located off Cape Ommaney (see Figures 9 and 10 for maps of these areas). They cover a total area of 13.5 square nautical miles. Dense thickets of *Primnoa* sp. coral have been identified in these areas by NMFS and the Alaska Department of Fish and Game during survey work using submersibles. These living habitat structures grow very slowly, are sensitive to disturbance by any bottom contact gear and anchoring, and have long recovery times. Restricting bottom contact gear and anchoring ensures that the living structures are protected from fishing activities that may adversely impact the habitat. (71 FR 14473; March 22, 2006) It was this action that necessitated the vessel monitoring system (VMS) requirement for vessels targeting lingcod with dinglebar gear. These vessels use bottom contact gear in the vicinity of these protected areas.

Many of the proposed fishing restrictions involve relatively small areas dispersed over a large section of the exclusive economic zone off Alaska (EEZ), making surveillance by enforcement vessels or aviation patrols difficult with existing resources. Tracking the location of fishing vessels by VMS facilitates enforcement of the EFH and HAPC management measures. In February 2005, the Council recommended the adoption of VMS requirement for all federally permitted vessels operating in the Aleutian Islands to facilitate enforcement of the EFH protection measures (71 FR 14473; March 22, 2006).

The Council did not originally recommend a VMS requirement for vessels operating in the GOA. In April 2005, during staff tasking, the Council scheduled a review and comment on the proposed rule for EFH for its June 2005 meeting. The Council expressed an interest in potential VMS requirements for GOA vessels relative to the EFH/HAPC closure areas, including review of the supplemental analyses for such VMS requirements by the Science and Statistical Committee, Advisory Panel, and Enforcement Committee (Council, April 2005 Newsletter).

In June 2005, the Council discussed potential VMS requirements for GOA vessels relative to the proposed EFH/HAPC closure areas. The Council recommended VMS requirements for vessels operating in the GOA with mobile bottom contact gear; however, the Council requested that NMFS not require VMS for fixed gear vessels, with the clarification that this recommendation not affect existing requirements promulgated as part of the Steller sea lion protection measures. Mobile bottom contact fishing gears were believed to have the greatest potential for adverse effects on sensitive sea floor habitat features (71 FR 14473; Council, June 2005 Newsletter).

The rules implementing the EFH/HAPC protection measures became effective on July 28, 2006 (71 FR 36694; June 28, 2006). The effective date for these measures was after the main 2006 May-June dinglebar fishery for lingcod had ended, so most dinglebar fishermen were not required to carry VMS units until the May-June 2007 fishery. The requirements in the *Code of Federal Regulations* read as follows[2]:

> 50 CFR 679.7(a)(22):
>
> …it is unlawful for any person to do any of the following:
>
> Operate a federally permitted vessel in the GOA with mobile bottom contact gear on board without an operable VMS and without complying with the requirements at § 679.28.

[2] This has been modified by a subsequent regulatory amendment to correct and clarify certain parts of the original final rule effective December 10, 2007 (72 FR 63500; November 9, 2007).

50 CFR 679.28(f)(6)(iii):

Your vessel's transmitter must be transmitting if…

(iii) You operate a federally permitted vessel in the GOA and have mobile bottom contact gear on board**;**

Definitions pertaining to Federal fishing regulations are at § 679.2. The definition for "operate" means "…for purposes of VMS that the fishing vessel is: (1) Offloading or processing fish; (2) in transit to, from, or between the fishing areas; or (3) Fishing or conducting operations in support of fishing." "Mobile bottom contact gear" is defined as nonpelagic trawl, dredge, and dinglebar gear.

Under 50 CFR part 679.4(b), if a vessel is used to fish in the EEZ of the GOA or Bering Sea and Aleutian Islands (BSAI) management areas, and is required to retain any groundfish caught in the EEZ, the vessel must have an FFP. If the vessel catches and retains any groundfish in the EEZ, it is also considered to be fishing for groundfish, and even if it wasn't required to retain the groundfish, it also must carry an FFP (NMFS 2007b).

Lingcod is not a species covered in the GOA groundfish FMP. This fishery is managed by the State of Alaska. An FFP is not required to fish for lingcod. However, rockfish are caught and retained as bycatch in lingcod fisheries, and rockfish are covered under the GOA groundfish FMP. Rockfish are the primary source of bycatch in this fishery. An FFP is required to harvest and retain rockfish. Moreover, State and Federal regulations require the retention of certain types of rockfish, including demersal shelf rockfish (DSR).

State regulations (5AAC 28.010 and 5AAC 28.171) require the full retention of DSR and black rockfish for Alaska's Commercial Fishery Entry Commission (CFEC) permit holders fishing for groundfish in the Southeast District. The DSR assemblage includes yelloweye, quillback, canary, tiger, copper, china, and rosethorn rockfish. A permit holder fishing for groundfish must retain, weigh, and report all DSR and black rockfish taken. This district includes waters in the EEZ as well as state waters (ADF&G, news release)[3].

The extension of the VMS requirement to dinglebar gear used to fish for lingcod is controversial because of the small numbers of operators, the small size of the vessels, the short period during which the fishery takes place, and the relatively small revenues generated. In June 2005, at the time it recommended the use of VMS on vessels with mobile bottom contact gear, but not on vessels with fixed gear, the Council requested an examination of a comprehensive approach to implementing VMS requirements in federally managed fisheries in the GOA and BSAI to address enforcement, monitoring, and safety concerns. The Council initially adopted a set of alternatives in December 2005 and modified them in April 2006 (NMFS 2007a).

In October 2006, the Council received an initial review draft of an environmental assessment/ regulatory impact review/ initial regulatory flexibility analysis (EA/RIR/IRFA) on this issue. The Council did not release the draft for public review, but instead requested the analysis of additional options, and scheduled

[3] Under Federal regulations (50 CFR 679.20(j)), the operator of a catcher vessel that is required to have a Federal fisheries permit, or that harvests individual fishing quota (IFQ) halibut with hook and line or jig gear, must retain and land all DSR that is caught while fishing for groundfish or IFQ halibut in the Southeast Outside District. However, this does not appear to apply to a vessel that only retains lingcod, since this is not a groundfish within the meaning of the FMP, and an FFP is not required to fish for it.

a second review of the analysis for February 2007. One of the new options would have provided an exemption for vessels deploying dinglebar gear (NMFS 2007a).

In February, 2007, the Council received a preliminary initial review draft for the action. This document was not a complete EA/RIR/IRFA, but provided a status report on the work which had been completed on the analysis since the October meeting. This document included a section examining the impact of the dinglebar VMS requirement. This analysis examined the lingcod fishery in 2004, made estimates of the cost of the VMS requirement to the fishery under the conditions prevailing that year, and compared the costs to various measures of individual vessel production (NMFS 2007a).

At the February 2007 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 (Council, February 2007 newsletter). When this occurred, further analytical work was suspended on all the alternatives and options, including the proposal to exempt dinglebar vessels from the VMS requirement.

At its April 2007 meeting, the Council requested a discussion paper on VMS requirements in the dinglebar fishery for its October 2007 meeting. Council staff subsequently rescheduled delivery of the discussion paper for the Council's December 2007 meeting. Staff did so because of an existing heavy workload for the October meeting, and because it recognized that, should the Council decide to adopt a problem statement and alternatives and request a preliminary analysis in October, NMFS could not realistically have regulations in place to modify the VMS requirement prior to the May and June fishery in 2008. Thus, a delay in delivery of the discussion paper until December did not delay potential implementation of a repeal of the VMS requirement. In December the Council deferred consideration of the discussion paper until February 2008.

In February 2008, the Council received a presentation on the discussion paper, and adopted a motion including a problem statement and three alternatives. These are described in the following sections. The Council requested preparation of an initial review EA/RIR/IRFA for its April 2008 meeting, and anticipated taking final action in June 2008.

In April 2008, the Council and its AP and SSC reviewed the initial review draft of the EA/RIR/IRFA for this action. At this time the Council modified its problem statement somewhat, eliminated an alternative to redefine dinglebar gear as bottom contact gear from further analysis (see section 2.1), and approved the release of the analysis for public review with revisions.

In June 2008, the Council adopted Alternative 2 as its preferred alternative. After reviewing the analysis, the Council concluded that any risk of illegal fishing in the Cape Ommaney and Fairweather Grounds HAPCs 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. Consequently, the VMS exemption recommended in this action applies specifically to dinglebar gear with respect to the five Coral Habitat Protection Area HAPC area currently identified in the GOA. Should the Council identify other GOA HAPC areas in the future, the need for VMS monitoring for all gear types will be examined with respect to those areas.

The proposed rule for this action was published in the Federal Register on October 3, 2008 (73 FR 57585). An Environmental Assessment/Regulatory Impact Review/Initial Regulatory Flexibility Analysis (EA/RIR/IRFA) was prepared for this action. The public comment period ended on November 3, 2008. No comments were received. No changes were made in the final rule from the proposed rule.

1.2 Purpose and Need

The Council requested a discussion paper to examine this issue in April 2007, and in February 2008 passed a motion initiating this analysis. The VMS requirement incurs operating costs, both for initial purchase and installation, and annual transmission and maintenance costs, to dinglebar fishermen prosecuting the lingcod fishery. It is possible, however, that dinglebar fishermen have no incentive to fish in the protected HAPCs. As a result, the VMS enforcement requirement may be an unnecessary burden to the participants. Typically, the fishery occurs in shallower areas than is encompassed by the protected HAPCs.

The Council formulated the following problem statement to initiate this analysis:

> *Dinglebar fishermen fishing for lingcod are required to carry VMS to enforce regulations to prohibit fishing in HAPC. However, the threat they pose to Gorgonian corals protected within HAPC may be small, and insufficient to justify the costs of VMS. For example, log book evidence suggests that most dinglebar fishing takes place at average depths above 50 fathoms. Other evidence suggests that most of the protected HAPCs occur below 80 fathoms.*

1.3 Objectives of the action

The objectives of this action are:

- Prevent damage to protected HAPC from the use of dinglebar gear in the restricted fishing zones
- Ensure regulations are applied without imposing undue costs on fishermen using dinglebar gear.

1.4 Action Area and Time Period

The action area for the proposed regulatory amendment is the GOA management areas. The dinglebar fishery for lingcod that would be affected by this action takes place in the eastern GOA.

The alternatives under consideration in this analysis are permanent.

1.5 Relationship of this Action to Federal Law

While NEPA and the RFA are the primary laws directing the preparation of this document, a variety of other Federal laws and policies require environmental, economic, and socio-economic analysis of proposed Federal actions. This document contains the required analysis of the proposed Federal action to ensure that the action complies with these additional Federal laws and executive orders (EOs):

- Magnuson-Stevens Fishery Conservation and Management Act (including Sustainable Fisheries Act of 1996)
- Endangered Species Act
- Marine Mammal Protection Act
- Administrative Procedure Act
- Information Quality Act
- E.O. 12866
- Regulatory Flexibility Act

The Harvest Specifications FEIS provides details on the laws and executive orders directing this analysis (NMFS 2007).

1.6 Statutory Authority

NMFS manages the U.S. groundfish fisheries of the GOA and the BSAI management areas in the Exclusive Economic Zone (EEZ) under the Fishery Management Plans (FMPs) for those areas. These FMPs are the Fishery Management Plan for Groundfish of the Gulf of Alaska (Council, 2006b) and the Fishery Management Plan for Groundfish of the Bering Sea and Aleutian Island Management Area (Council, 2006a). The Council prepared and the Secretary approved the FMPs under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801, *et seq*.).

2 Description of Alternatives

The alternatives, as determined by the Council's February 2008 motion, are as follows:

Alternative 1 Status quo; no change in current regulations

Alternative 2 Exempt dinglebar fishermen from the VMS requirement (Preferred)

There do not appear to be other alternatives that would accomplish the objectives of this action. No other alternatives would reduce the costs to the fishermen by a greater amount. NMFS is not aware of other, equally secure, methods for monitoring vessel movements at an equal or lesser cost.

2.1 Council's preferred alternative

At the June 2008 meeting, the Council adopted Alternative 2 as its recommendation for this action. After reviewing the analysis, the Council concluded that no risk to the Cape Ommaney HAPC would result from removing the VMS monitoring requirement, and little appreciable risk to the Fairweather Grounds HAPC. The regulations prohibiting vessels from anchoring or fishing in the HAPCs will remain in place. The incentive to fish with dinglebar gear in the HAPCs is low, because of the depth of the bottom, and the type of bottom habitat occurring within the HAPCs. As a hand troll gear type, dinglebar gear is difficult to fish at depth, and most lingcod fishing occurs in shallower areas of Fairweather Ground, which also have a different bottom habitat type. The Council compared this information against the cost of acquiring and operating VMS for lingcod fishermen, understanding that the lingcod fishery is a small, carefully-managed fishery that occurs over 1 to 2 weeks, and does not have a large profit margin. The Council determined that any risk of illegal fishing in the HAPCs 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. Consequently, the VMS exemption recommended in this action applies specifically to dinglebar gear with respect to the five Coral Habitat Protection Area HAPC areas currently identified in the GOA. Should the Council identify new GOA HAPCs in the future, the need for VMS monitoring for all gear types will be examined with respect to those areas.

2.2 Alternatives considered, but not carried forward

The Council originally initiated this analysis with three alternatives, and at initial review in April 2008, deleted the following:

Eliminated Alternative: Redefine mobile bottom contact gear to exclude dinglebar gear (this would remove the requirement that dinglebar fishermen avoid HAPC and the requirement that vessels in the GOA with the gear on board carry VMS)

While the eliminated alternative meets the problem statement to the extent that, if adopted, dinglebar fishermen would no longer be subject to VMS requirements, this alternative has broader implications with which the Council did not agree. Under this alternative, the Council would effectively be affirming that dinglebar gear does not qualify as a gear type that impacts bottom habitat. In any future actions that the Council might undertake to regulate impacts from mobile bottom contact gear, dinglebar gear would be excluded. Consequently, the Council stated that it was inappropriate to include this alternative in this analysis.

3 Affected Environment

3.1 What is a VMS unit?

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 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 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 OLE. Approval is required to ensure integration of privately supplied VMS units and 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 OLE (website at http://www.nmfs.noaa.gov/ole/ak_faqs.html).

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 OLE processing center. At the center, the information is validated and analyzed before being disseminated for surveillance, enforcement purposes, and fisheries management. Figure 1 provides a schematic of the generic VMS data path.

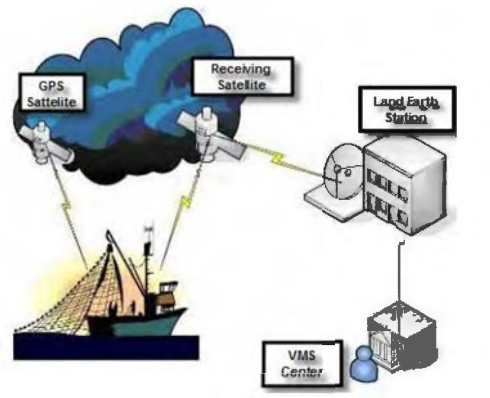


Figure 1 Generic VMS data path. Details vary among service providers.

From the VMS data server, the rate at which VMS units send signals can be remotely programmed or altered. Some 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. 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 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 data is reviewed and analysed 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. 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 the USCG 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.

Confidential data are only disclosed to Federal employees and Council employees who are responsible for management plan development and resource monitoring, and State fisheries enforcement and fishery management employees when there is a confidentiality agreement that prevents public disclosure of the identity or business of any person. Confidential data can only be disclosed to the general public when required by the Freedom of Information Act (FOIA), 5 U.S.C. 552, the Privacy Act, 5 U.S.C. 552a, or by court order. (NMFS n.d.; Magnuson-Stevens Act, Sections 311 and 402).

3.2 Lingcod

Lingcod (*Ophiodon elongatus*) are the largest member of the greenling family (Family Hexagrammidae), and are related to sculpins and scorpion fish. They are not true cod. They range from Baja California to the Alaska Peninsula and are most commonly found in waters from 10 to 100 meters deep (although they can be found as deep as 300 meters) (Gordon 1994; Vincent-Lang 1994).

The lingcod life cycle can last 25 years (the maximum reported age). Spawning starts in December, and peaks between mid-January and mid-March. Eggs are deposited and fertilized in nests, which are guarded by adult males for the 5 to 11 weeks it takes for them to hatch. Most of the eggs have hatched by mid-May. During this period, the eggs are very vulnerable to predation. Larval lingcod are initially pelagic, but begin using bottom habitats by mid-summer of their first year. Males begin to become sexually mature at two years (at about 20 inches), and females mature at three to five years (at 24 to 30 inches). Adults can weigh up to 80 pounds (35 kg) and grow up to 60 inches (150 cm) in length. (Vincent-Lang 1994)

The dinglebar fishery operates in a West Coast and International marketplace. Lingcod are harvested as bycatch and in directed fisheries off of the U.S. West Coast, British Columbia, and Alaska. Primary markets are in the United States, Japan, and Canada. Lingcod have a white flaky flesh when cooked, and a

review of market websites suggests that lingcod, halibut, and other white fleshed species are substitutes for one another. Lingcod may be taken as bycatch in trawl and longline fisheries, and as directed catch in jig or dinglebar fisheries. The highest quality lingcod is taken in hook-and-line fisheries that bleed and ice the fish immediately and deliver a fresh product. Fresh fish may last a week, frozen up to a year. They are also the subject of small live fish fisheries (Pacific Seafood Group 2002).

There is a directed dinglebar fishery in southeast Alaska. Directed fishing is also allowed with mechanical jigging gear and with hand troll gear in Southeast Alaska as well as elsewhere in the state. Lingcod are also taken as bycatch in longline fisheries for groundfish and halibut (Vincent-Lang, 1994).

Lingcod are aggressive and good eating; therefore they've become a popular sport fish target (Vincent-Lang 1994).

3.3 Dinglebar fishing

Dinglebar gear

Dinglebar gear is salmon troll gear with the addition of a heavy metal bar. The weight of the bar keeps the hooks close to the bottom. Gordon (1994) describes the fishing method as follows:

> *Most vessels participating in the directed fishery for lingcod are salmon trollers < 13 m in length that use dinglebar gear trolled at slow speeds. Salmon trollers are easily adapted to this fishery. Dinglebar gear is configured as a single horizontal spread of up to 13 lead-headed jigs extending from an attachment about 1 m above a 1- to 3-m steel bar weighing 13.6-34 kg… The troll wire is run directly into the water off a block and, unlike troll gear, is not tagged to a trolling pole. This allows the fisher to keep a hand on the wire and feel if the gear is hitting bottom or if fish are biting. For this reason a person can effectively fish only 1 line….*

Figure 2 taken from Gordon, shows the dinglebar configuration.

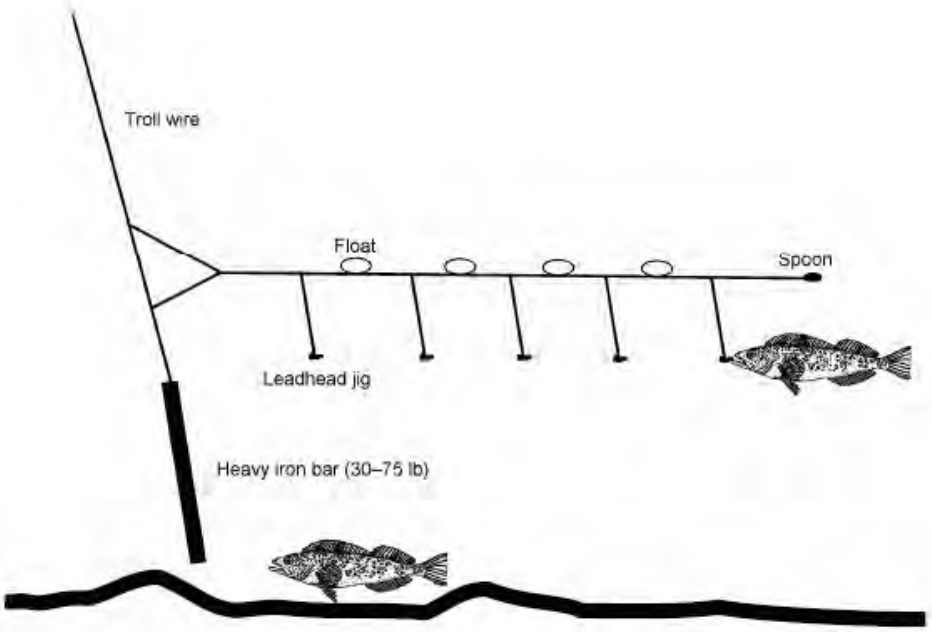


Figure 2 Diagram of dinglebar gear used to fish for lingcod in Southeast Alaska (from Gordon 1994).

Seltzer (2006) describes the technique as it was practiced off of California in the early 1990s:

> *I fished commercially for lingcod aboard the vessels Anna B., Duwam, Margie Mae, and Serenade II. Under one of the original masters, I learned an obscure and secretive, but highly effective, method called "dinglebar" trolling. This guy was so good he was practically worshipped any time we arrived in a new port. They often called him "Bruce the Ling-slayer." Those days, we actually hid our gear from sight so that it wouldn't get copied. The basic formula involved a lot of 8-oz. leadhead jigs, tuna cord, a few empty 12-oz. glass soda bottles, and the dinglebar, which is a 50 to 60-pound bar, typically made out of discarded sash weights originally used to counter-weight large hung windows. We would troll the dinglebar on the end of a steel cable very close to the bottom, sometimes along the bottom, which is tricky, since the bottom tends to grab your gear… and keep it! Up the cable a couple of feet there's a long cord tied on that trails way out behind the boat, with several leadhead jigs tied on at intervals along the cord. After every third jig, one of the empty sealed soda bottles is fastened to the cord to provide buoyancy. You roam around until you start to catch fish, then you set the boat on a tack and start pulling them up….*

Elsewhere Seltzer indicates that, on this vessel, the crew – apparently of two – operated two sets of dinglebar gear from hydraulic salmon gurdies at the same time, one person setting as the other was hauling back. This operation fished for a live market, returning after two day trips with the live lingcod in a holding tank. The lingcod were marketed to customers at dockside; customers stood on the dock above the boat and pointed to the fish they wanted. This was retrieved from the holding tank, bludgeoned to death on the deck, and hoisted up to the customer in a paper sack (Seltzer 2006) Alaska's dinglebar fishermen, in contrast, are supplying a fresh market. Vessels make short trips, and ship a partly processed product by air to the lower 48 United States (Gordon 1994).

3.4 *Primnoa* coral and Habitat Areas of Particular Concern

A habitat profile for *Primnoa* species reported by Cimberg et al. (1981) associates *Primnoa* species with large boulders and exposed bedrock in areas with moderate to high currents and yearly temperatures above 3.7°C. Red tree coral (*Primnoa* sp.) may be the most common gorgonian coral[4] observed in fished areas of the eastern GOA. Concentrations of *Primnoa* sp. are unique and are considered rare in the vast areas of the slope and shelf, and efforts have been taken to locate these concentrations. Where *Primnoa* species are found, the high relief structure appears to offer refugia for commercially important demersal fishes (Bizarro 2002).

The overall abundance of high relief hard coral structures in Alaska is unknown. Information is primarily based on documented locations of high relief hard corals sites that have been observed *in situ* by NMFS and ADF&G submersible research. Additional information about coral bycatch in the commercial fisheries as well as bycatch in NMFS research surveys is available.

3.4.1 Designation of HAPCs

The GOA FMP designates three HAPCs in the waters off of Southeast Alaska. Two of these are in the vicinity of the Fairweather Grounds, and one is far to the south off of Cape Ommaney. Within these areas,

[4] Gorgonian corals are colonial marine corals with rigid skeletons. There are 18 recognized Gorgonian families, including the *Primnoa* species. University of Alaska, Anchorage, Natural Heritage Program website on Gorgonian corals provides more information: http://aknhp.uaa.alaska.edu/zoology/species_ADFG/ADFG_PDFs/Invertebrates/GorgonianCorals_ADFG_web_060105.pdf

five smaller areas are identified in which fishing is restricted, which collectively are called the GOA Coral Habitat Protection Areas (Figure 3). Two of the restricted areas are in the most northerly Fairweather Grounds HAPC, two are within the more southerly Fairweather HAPC, and one is in the Cape Ommaney HAPC. These areas are described in detail below.

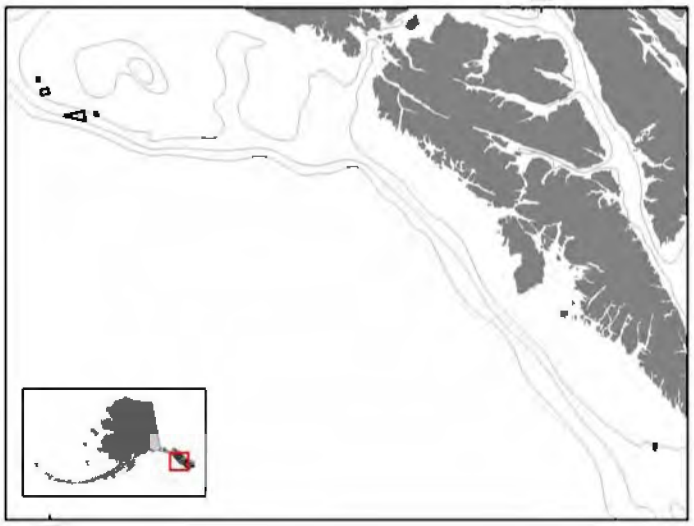


Figure 3 Gulf of Alaska Coral Habitat Protection Areas

A full description of the HAPC process and methods used to evaluate the areas can be reviewed in the EA/RIR/IRFA supporting the designation of the HAPCs (NMFS 2006b). The HAPCs were adopted to protect known concentrations of red tree coral (*Primnoa* species), which are a rare and an important habitat type that is a refuge habitat for rockfish and other species. Submersible observations and fishery bycatch records document that *Primnoa* species colonies are easily damaged or dislodged from the seafloor if contacted by fishing gear. Because these coral species are long lived and slow growing, recovery after disturbance is likely to take decades (NMFS 2006b).

Cape Ommaney Area

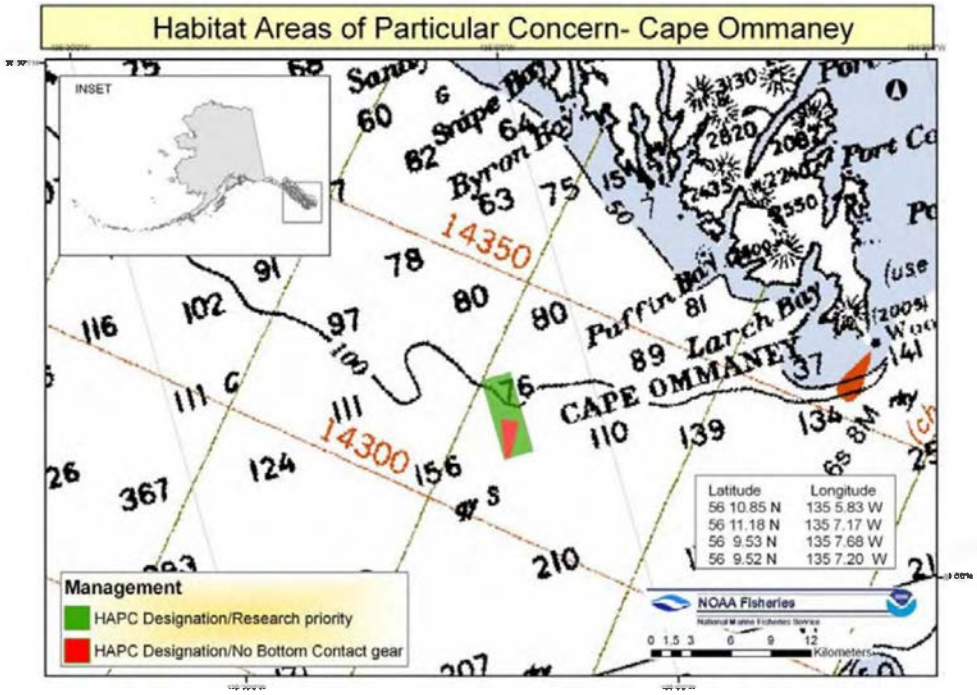


Figure 4 Cape Ommaney HAPC, part of the Gulf of Alaska Coral Habitat Protection Area.

As shown in Figure 4, the Cape Ommaney HAPC is located in the eastern GOA, about 28 km west of Cape Ommaney, Baranof Island, Alaska. Common bottom types for Cape Ommaney area include rock, gravel, and cobble (NOAA Chart 17400). However, newer multi-beam survey technology shows that there is almost three times more rock habitat in this area than originally thought (O'Connell et al. 2002). Designation of the Cape Ommaney site as HAPC was based on directed NMFS research that documented boulder and bedrock substrates supporting concentrations of *Primnoa* species (see Figure 5). Bedrock and large boulders at depths between 201 and 256 m (between about 110 and 140 fathoms) support the concentrations of *Primnoa* species. Several hundred colonies were observed at this site and many were greater than 1 m in height. High *Primnoa* sp. concentrations and associated sedentary invertebrates were also associated with the small pinnacles. A series of small pinnacles also make this area unique.

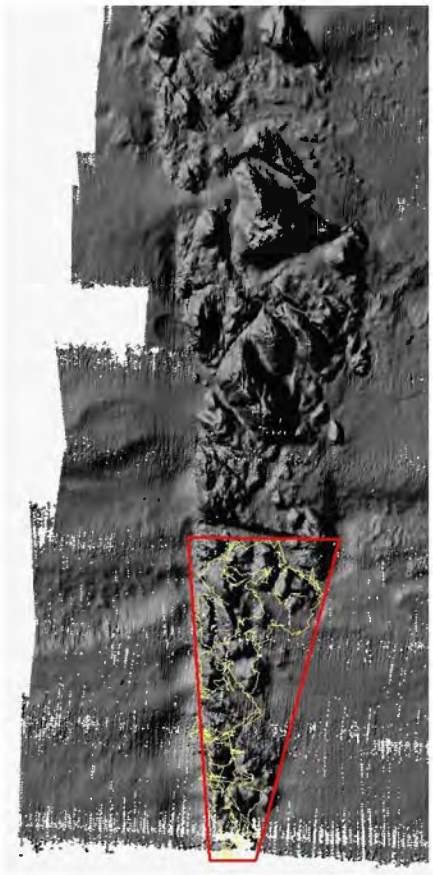


Figure 5 Sonar image of Cape Ommaney. NMFS dive transects are marked in yellow, the restricted area of the HAPC is outlined in red.

Fairweather Ground NW/SW Area

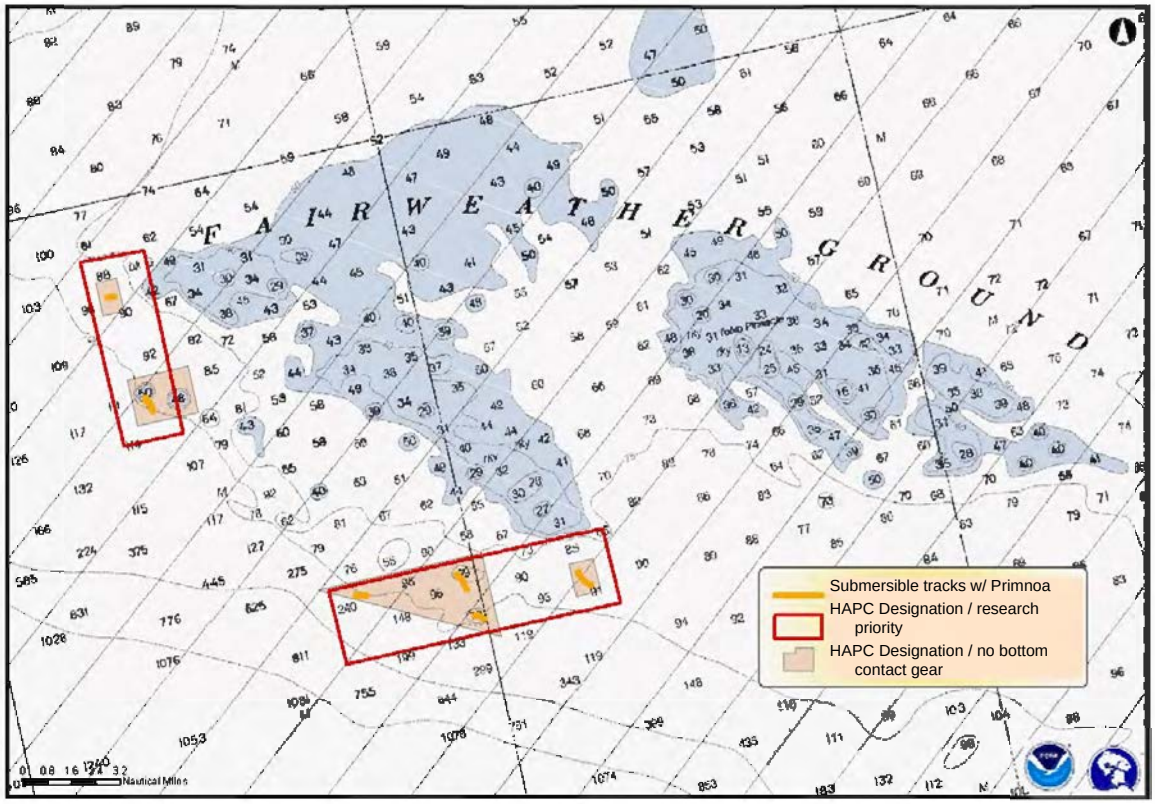


Figure 6 Fairweather Ground HAPCs, part of the Gulf of Alaska Coral Habitat Protection Area

As shown in Figure 6, two HAPCs are located on the Fairweather Ground in the eastern GOA. Common bottom types of the Fairweather Ground HAPCs include bedrock, boulders, cobble, pebble, and gravel (NOAA Chart 16760; Bizzarro 2002), with a considerable amount of rock habitat on the bottom (O'Connell et al. 2002). Various submersible dives in the area were conducted throughout the 1990s, during which the presence and absence of *Primnoa* species were noted (Figure 7). In 2001, NMFS's Alaska Fisheries Science Center scientists conducted dives with the submersible vehicle *Delta* in areas of the Fairweather Grounds where large catches of *Primnoa* sp. coral were collected as bycatch during triennial groundfish surveys. Submersible observations confirmed the presence of a series of dense *Primnoa* sp. concentrations located along the western flank (see Figure 6). Additional submersible research has also noted areas of *Primnoa* species in rocky and boulder substrates. However, these two areas had greater concentrations of *Primnoa* species than other surveyed areas (NPFMC 2004). Bedrock and large boulders at depths between 150 and 200 m (from about 82 to 109 fathoms) support the concentrations of *Primnoa* species. Colonies were observed and distributed throughout the dive transects. Many colonies were greater than 1 m in height.

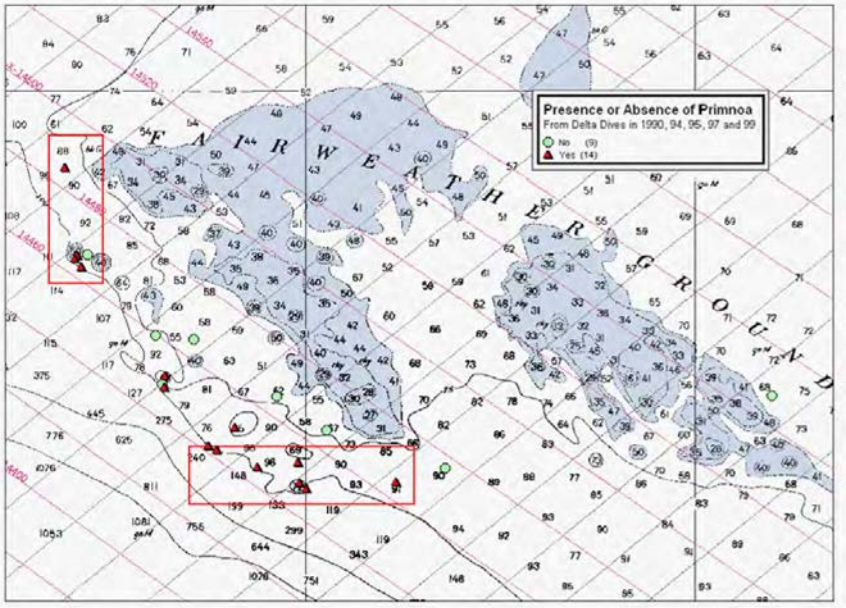


Figure 7 Submersible dives occurring below 70 fathoms in the 1990s, illustrating the presence or absence of *Primnoa* species.

3.4.2 Ecological importance of *Primnoa* species

Primnoa colonies likely serve several important ecological functions. FMP species have been observed in high concentration *Primnoa* areas (such as the designated HAPCs; Table 1). Colonies provide important structural habitat for many species, including refuge for juvenile rockfish and golden king crab, and mating golden king crab. The presence of gravid females may indicate that the habitat provides important breeding or spawning habitat for at least two species of rockfish: dusky and yelloweye. Red tree coral colonies provide elevated feeding platforms for many sessile invertebrates, and may provide a source of prey for some species of fish that aggregate in colonies. Also, observations noted invertebrates feeding on the *Primnoa* species, thereby improving knowledge about the importance of this fragile habitat structure and its relationship to the ecosystem.

Table 1 GOA Groundfish FMP species and life stages that have been observed *in situ* in association with *Primnoa* species in the HAPCs

Common name	Scientific name	Cape Ommaney	Fairweather Ground
Juvenile rockfish (unidentified)	*Sebastes* species	✓	✓
Yelloweye rockfish adults	*Sebastes ruberrimus*	✓	✓
Rougheye rockfish adults	*Sebastes aleutianus*	✓	✓
Dusky rockfish adults	*Sebastes ciliatus*	✓	
Redbanded rockfish adults, including gravid females	*Sebastes babcocki*	✓	✓
Sharpchin rockfish adults, including gravid females	*Sebastes zacentrus*	✓	
Sharpchin rockfish adults	*Sebastes zacentrus*	✓	✓
Pacific ocean perch adults	*Sebastes alutus*	✓	
Rosethorn rockfish adults	*Sebastes helvomaculatus*	✓	✓
Silvergray rockfish adults	*Sebastes brevispinis*	✓	✓
Shortraker rockfish adults	*Sebastes borealis*		✓
Skate	unidentified		✓
Sculpin	unidentified		✓

3.4.3 Management of HAPCs

Management measures restrict fishing activity within the five areas that comprise the GOA Coral Habitat Protection Areas. Anchoring by any Federally permitted fishing vessel is prohibited in these areas, as is the use of bottom contact gear (defined as nonpelagic trawl, dredge, dinglebar, pot, or hook-and-line gear). To enforce the restriction, all federally permitted vessels with mobile bottom contact gear (nonpelagic trawl, dredge, and dinglebar gear) onboard must transmit VMS. As non-pelagic trawl and dredge gear are not used in the eastern Gulf of Alaska, the only restricted gear monitored by VMS is dinglebar gear. Table 2 identifies the coordinates of the three larger HAPCs, and of the five restricted fishing areas within them (Figure 4, Figure 6).

Table 2 Name, location, and area of HAPC sites along the continental slope in the eastern GOA

HAPC	Latitude	Longitude	Management	NOAA Chart No.	Area
Cape Ommaney	56° 12' 51" N. 56° 12' 51" N. 56° 09' 32" N. 56° 09' 32" N.	135° 07' 41" W. 135° 05' 30" W. 135° 05' 30" W. 135° 07' 41" W.	HAPC designation / research priority	17320	4.0 nm^2
Cape Ommaney	56° 11' 11" N. 56° 10' 51" N. 56° 09' 31" N. 56° 09' 32" N.	135° 07' 10" W. 135° 05' 50" W. 135° 07' 12" W. 135° 07' 41" W.	No bottom contact gear	17320	0.9 nm^2
Fairweather Ground NW Area	58° 28' 10" N. 58° 28' 10" N. 58° 22' 00" N. 58° 22' 00" N.	139° 19' 44" W. 139° 15' 42" W. 139° 15' 42" W. 139° 19' 44" W.	HAPC designation / research priority	16760	13.11 nm^2
Fairweather Ground NW Area 1 (FN1)	58° 27' 25" N. 58° 27' 25" N. 58° 26' 19" N. 58° 26' 19" N.	139° 19' 05" W. 139° 17' 45" W. 139° 17' 45" W. 139° 17' 45" W.	No bottom contact gear	16760	0.77 nm^2
Fairweather Ground NW Area 2 (FN2)	58° 24' 06" N. 58° 24' 06" N. 58° 22' 33" N. 58° 22' 33" N.	139° 18' 30" W. 139° 14' 35" W. 139° 14' 35" W. 139° 18' 30" W.	No bottom contact gear	16760	13.11 nm^2
Fairweather Ground Southern Area	58° 16' 00" N. 58° 16' 00" N. 58° 13' 10" N. 58° 13' 10" N.	139° 09' 45" W. 138° 51' 34" W. 138° 51' 34" W. 139° 09' 45" W.	HAPC designation / research priority	16760	27.3 nm^2
Fairweather Ground Southern Area 1 (FS1)	58° 16' 00" N. 58° 16' 00" N. 58° 13' 10" N.	139° 09' 45" W. 138° 59' 15" W. 138° 59' 15" W.	No bottom contact gear	16760	7.87 nm^2
Fairweather Ground Southern Area 2 (FS2)	58° 15' 00" N. 58° 15' 00" N. 58° 13' 55" N. 58° 13' 55" N.	138° 54' 05" W. 138° 52' 35" W. 138° 52' 35" W. 138° 54' 05" W.	No bottom contact gear	16760	0.86 nm^2

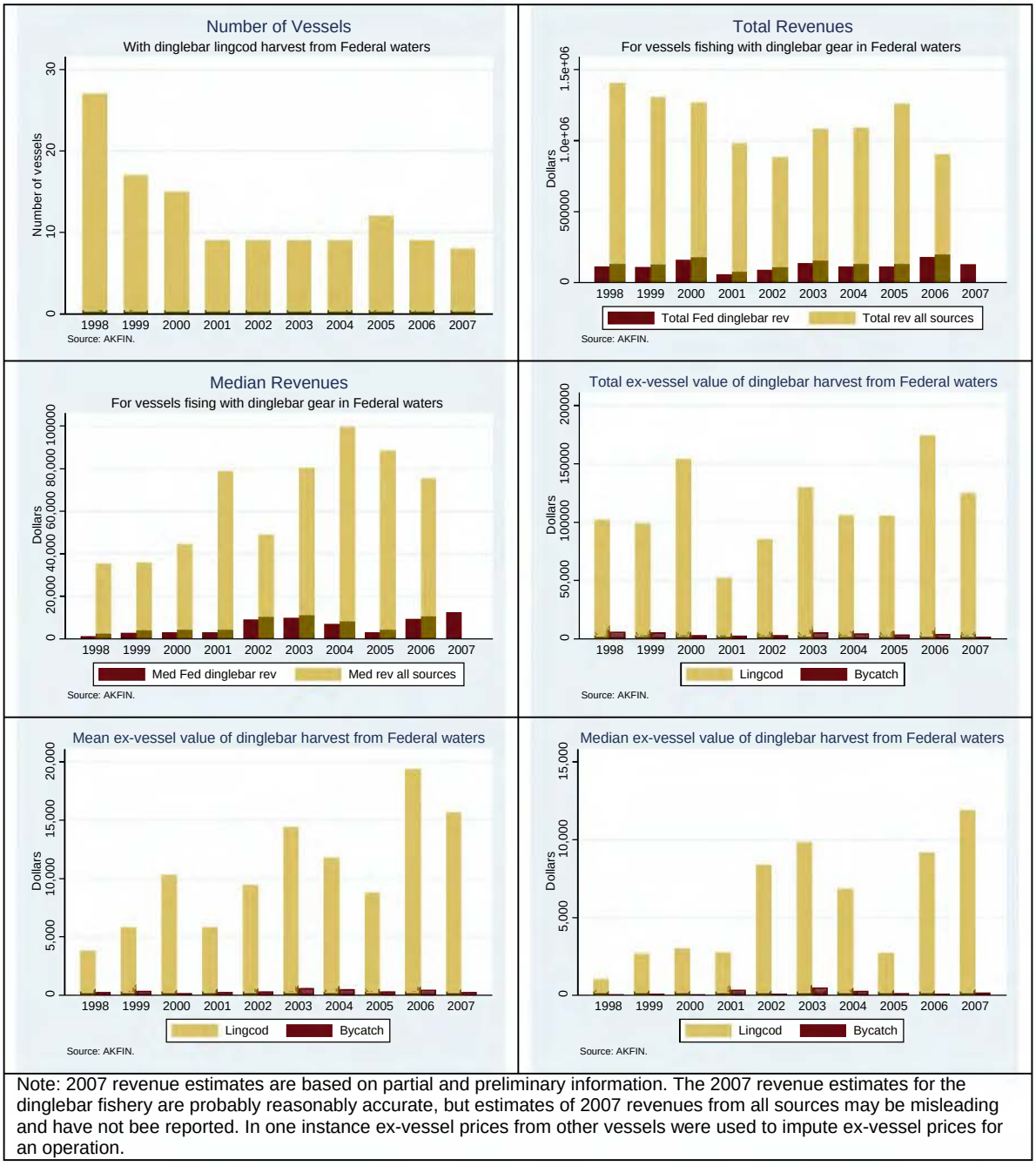
3.5 The fishery in Federal waters off Alaska

Activity in Federal waters

As shown in Figure 8 below, the number of vessels active in this fishery since 1998 has ranged widely, but has tended to decline. In 2007, there were fewer active vessels than in any of the other years. Fleet revenues from the dinglebar lingcod fishery have tended to be a small, but not a trivial, proportion of fleet

revenues from all fisheries. Fleet revenues from the bycatch of other species (primarily rockfish) in the Federal dinglebar fishery have tended to be a small proportion of overall dinglebar fishing revenues.

Figure 4 also shows a long term increase in average lingcod gross revenues for those fishing in Federal waters. Average harvest value in 2006 and 2007 was between $15,000 and $20,000. Median revenues show a different pattern, jumping up from low levels in 1998-2001 to higher levels (except for 2005) in the period 2002-2007. Neither the mean or median summaries suggest that bycatch was an important source of revenues from fishing dinglebar gear in Federal waters.

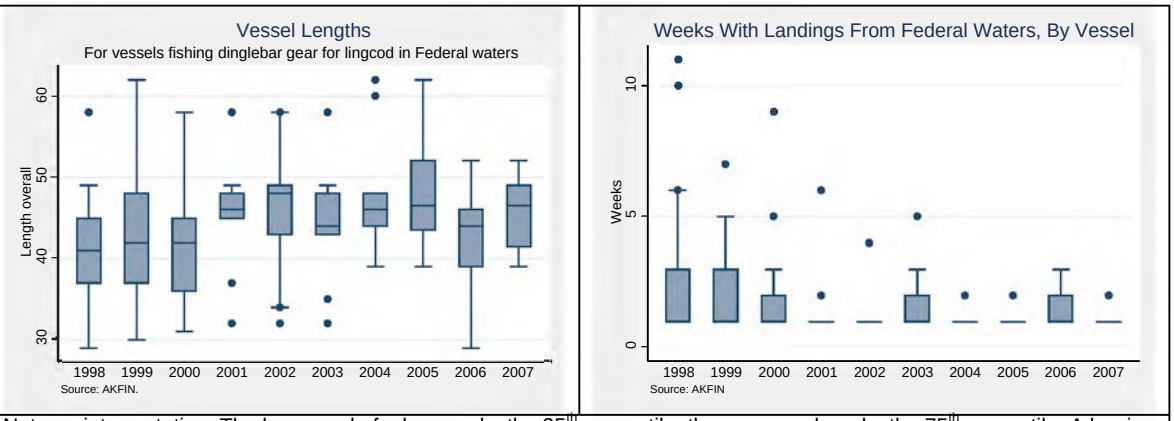


Note: 2007 revenue estimates are based on partial and preliminary information. The 2007 revenue estimates for the dinglebar fishery are probably reasonably accurate, but estimates of 2007 revenues from all sources may be misleading and have not bee reported. In one instance ex-vessel prices from other vessels were used to impute ex-vessel prices for an operation.

Figure 8 Number of vessels with Federal lingcod harvests, with median and total revenues, and value 1998-2007.

Vessels and their characteristics

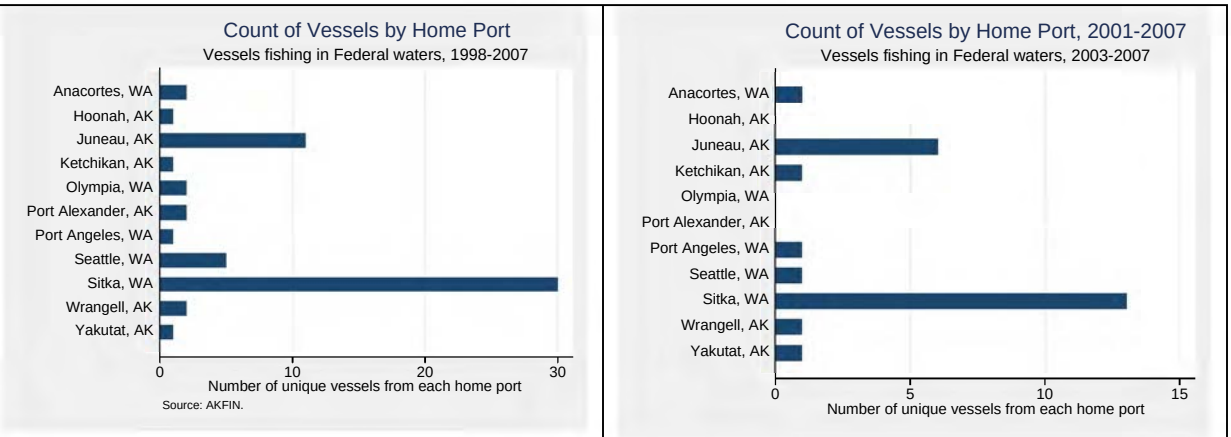
Figure 9 shows the distribution of vessels by vessel length overall (LOA) and the distribution of vessels by the number of separate weeks during which landings were made in a season. In recent years, the median vessel length appears to have been between 45 and 50 ft LOA. Vessels appear to have been somewhat shorter in the earlier years in this time series (note that the targeted commercial fishery goes back to the 1980s), but increased in length abruptly between the 2000 and 2001 seasons. During this time, the median vessel appears to have made landings from Federal waters in only one week per year. The most active vessels tended to make landings in fewer weeks as time passed.



Note on interpretation: The lower end of a box marks the 25th percentile, the upper end marks the 75th percentile. A bar in the center marks the median, or 50th percentile. The range between the 25th and 50th percentiles is called the interquartile range. The ends of the whiskers mark the last observation, if any, that falls within 1.5*IQR of the ends of the box. Circles mark extreme values.

Figure 9 Vessel lengths and numbers of weeks of fishing.

Figure 10 shows that most vessels fishing with dinglebar gear in Federal waters are from Southeast Alaska, especially from Sitka, and to a lesser extent Juneau. This pattern holds up over the longer 1998-2007 time period, and the last five years.



Source: vessel registration files

Figure 10 Vessel counts by home port.

Figure 11 shows the number of years that individual vessels were active in the fishery in Federal waters. The left hand side shows the numbers over the whole period from 1998-2007. The right hand side focuses on the numbers active since the overall annual vessel count stabilized in 2001. Even for the more recent

period, a large number of operations were active for only one year. On the other hand, two vessels operated in each of the seven years of the period.

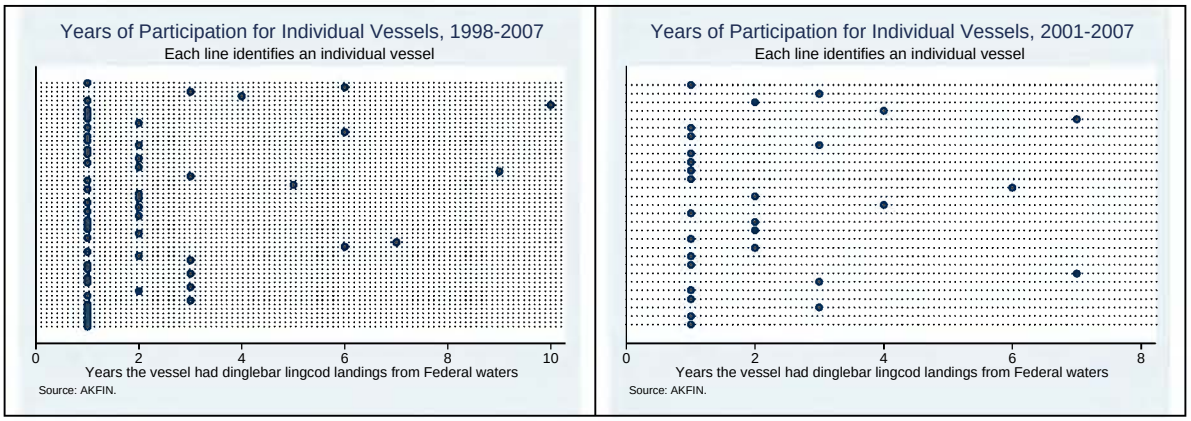


Figure 11 Number of years of participation in the fishery, by vessel.

Diversification

Participants in the dinglebar fishery in Federal waters were active in other fisheries during the year. As shown in Figure 12, dinglebar revenues were a relatively small, but not trivial proportion of their revenues from all sources.

In recent years, vessels taking lingcod with dinglebar gear in Federal waters during a year do not appear to take lingcod with dinglebar gear in State waters, and vice versa. In the early years of the data, from 1998 to 2000, vessels appear to have been more prone to be active in both State and Federal waters, but this pattern disappears from 2000 forward.

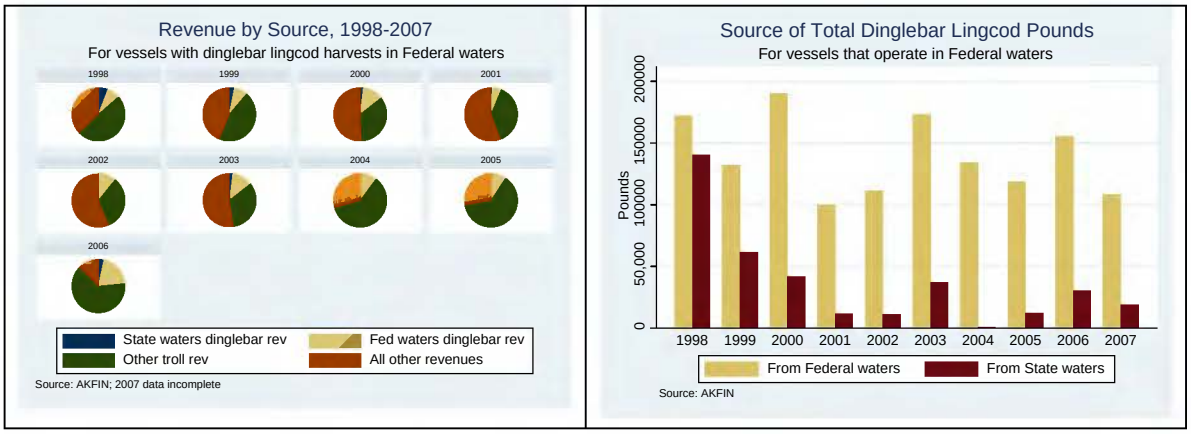


Figure 12 Revenues and pounds by source for vessels fishing for Lingcod with dinglebar gear in Federal waters, 1998-2007.

3.6 Management authority and the VMS requirement

A fishery not explicitly covered by the Council's FMPs or their implementing regulations may be regulated by the State of Alaska as authorized by the Magnuson-Stevens Act under Section 306(a) in the following circumstances. First, Magnuson-Stevens Act Section 306(a)(3)(A) provides for State regulation of a fishing vessel outside State boundaries if the vessel is registered with the State and there is no FMP

or other applicable Federal regulations for the fishery in which the vessel is operating. If there is an FMP, this section also provides for State regulation of fishing outside State boundaries if the State's laws and regulations are consistent with the FMP and applicable Federal regulations for the fishery in which the vessel is operating. Second, Magnuson-Stevens Act Section 306(a)(3)(B) provides for State management when an FMP specifically delegates that management authority and the State's laws and regulations are consistent with that FMP. The third circumstance is applicable to fishing vessels that are not registered under the law of the State of Alaska and operate in a fishery in the EEZ for which there was no FMP in place on August 1, 1996. In this case, if the Council and the Secretary of Commerce find a legitimate interest of the State in the conservation and management of such a fishery, then the State may regulate fishing until an FMP is approved and implemented (Wilson 2007).

There is no FMP which covers lingcod fishing in Federal waters of the GOA. Under these circumstances, the State of Alaska has exercised its regulatory authority over commercial fishing for lingcod in Federal waters.

The regulations governing the VMS requirement specifically apply to a "federally permitted vessel." Thus, if a vessel was not required to carry, or did not voluntarily carry, an FFP, the VMS requirement would not apply. Because there is no FMP governing lingcod fishing in Federal waters of the GOA, a Federal fishing permit (FFP) is not required specifically to fish for lingcod in these waters.

However, according to Federal requirements for groundfish federal fishing permits at 50 CFR part 679.4(b), if a vessel is used to fish in the EEZ of the GOA or the BSAI management areas and is required to retain any groundfish caught in the EEZ, the vessel must have an FFP. For purposes of this regulation, groundfish means Atka mackerel, flatfish except for Pacific halibut, octopus, Pacific cod, pollock, rockfish, sablefish, sculpins, sharks, skates, or squid (See Table 2a to CFR part 679).

State regulations require permits issued by the Commercial Fisheries Entry Commission (CFEC) for participation in the dinglebar fishery for lingcod. State regulations further require CFEC permit holders to retain all demersal shelf rockfish (DSR) and black rockfish taken as bycatch in the lingcod fishery. An FFP and associated VMS are requirements for participation in the lingcod fishery because these rockfish are groundfish covered by the FMP, they are taken as bycatch in the fishery, and no fisherman can be confident of avoiding the bycatch.

3.7 State management

There are currently no accurate estimates for the abundance of lingcod in Alaska. Moreover, lingcod are believed to be vulnerable to overfishing and stocks take a long time to recover. Some stocks on the West Coast are believed to have been over harvested. For these reasons, the State of Alaska pursues what it believes to be a very conservative management regime (ADF&G n.d.).

The State has adopted a management approach that uses the following measures to assure there are enough lingcod in the spawning population to ensure future recruitment (Vincent-Lang 1994):

1) It protects spawning and nest-guarding fish. In many areas, sport and commercial fisheries are closed during the spawning and nest-guarding periods.
2) It allows fish to spawn at least once before being subject to harvest. Minimum size limits are established for both sport and commercial fisheries.
3) It restricts catch. In many areas, the sport fishery is restricted by daily bag and possession limits. Commercial fisheries are restricted by catch and bycatch quotas.

Specifically, the State of Alaska's management regime in Southeast Alaska currently includes the following components:

- Spatial protection for the stocks off of Southeast Alaska, by dividing the Southeast into seven lingcod management areas. The seven areas are (1) Northern Southeast Inside (NSEI), (2) Southern Southeast Internal Waters (SSEIW), (3) Northern Southeast Outside (NSEO), (4) Central Southeast Outside (CSEO), (5) Southern Southeast Outer Coast (SSEOC), (6) Icy Bay Sector (IBS), and (7) East Yakutat (EYKT). Figure 13 shows the state management areas for lingcod off of Southeast Alaska. Detailed descriptions of Management Area boundaries may be found at 5AAC 28.105.
- Prohibition of directed fishing in the inside districts, NSEI and SSEIW, and in the waters of the CSEO between latitudes 56 55.5' N. and 56 57.0' N. and longitudes 135 54' W. and 135 57' W. (the Pinnacle area) and waters of Sitka Sound.
- *Annual harvest quotas for the different areas.* In 2007, the directed lingcod quota was allocated as follows: (1) Icy Bay Sector 66,660 round pounds, (2) East Yakutat 111,000 pounds, (3) Central Southeast Outside 86,400 pounds, (4) Northern Southeast Outside 17,200 pounds, and (5) Southern Southeast Outer Coast 50,100 pounds.
- *Temporal protection*, especially during the spawning and nesting season. The directed fishery normally opens in mid-May.
- *Gear limitations.* Lingcod may be taken in a directed lingcod fishery only by mechanical jigging machines, dinglebar troll gear, and hand troll gear.
- *Vessel identification requirements.* Vessels fishing for groundfish with dinglebar troll gear must display the letter "D" and vessels fishing for groundfish with mechanical jigging machines must display the letter "M" (5AAC 28.135).
- *Prior registration with ADF&G.* The vessel owner or the owner's agent must register the vessel with the department prior to directed fishing for lingcod.
- *Super exclusive registration.* The IBS directed fishery is a super exclusive registration area and has its own registration form. A CFEC permit holder who participates in the directed commercial taking of lingcod in the Icy Bay Subdistrict may not participate or have participated in the directed commercial taking of lingcod as a CFEC permit holder in any other registration area or portion of a registration area during that calendar year.
- *Bycatch.* Full retention of DSR or black rockfish first sentence needs clarification that if the DSR overage is taken in federal waters, it may be retained for personal use or donated but may not be sold or enter commerce. This is different from DSR overage in state waters in which proceeds from the sale would go to the state.
- Bycatch retention limits expressed as percentages of the round weight of lingcod aboard: (1) 10% demersal shelf rockfish, (2) 5% all other rockfish and thornyheads in aggregate, (3) 20% Pacific cod, (4) 20% Spiny dogfish, (5) 20% other groundfish in aggregate.
- Lingcod logbooks are required and a copy of the logbook pages detailing a landing must be attached to the fish ticket documenting the landing.
- All lingcod harvested must be a minimum of 27 inches in length. Undersized lingcod that are tagged may be retained as long as the tag is not removed from the fish.

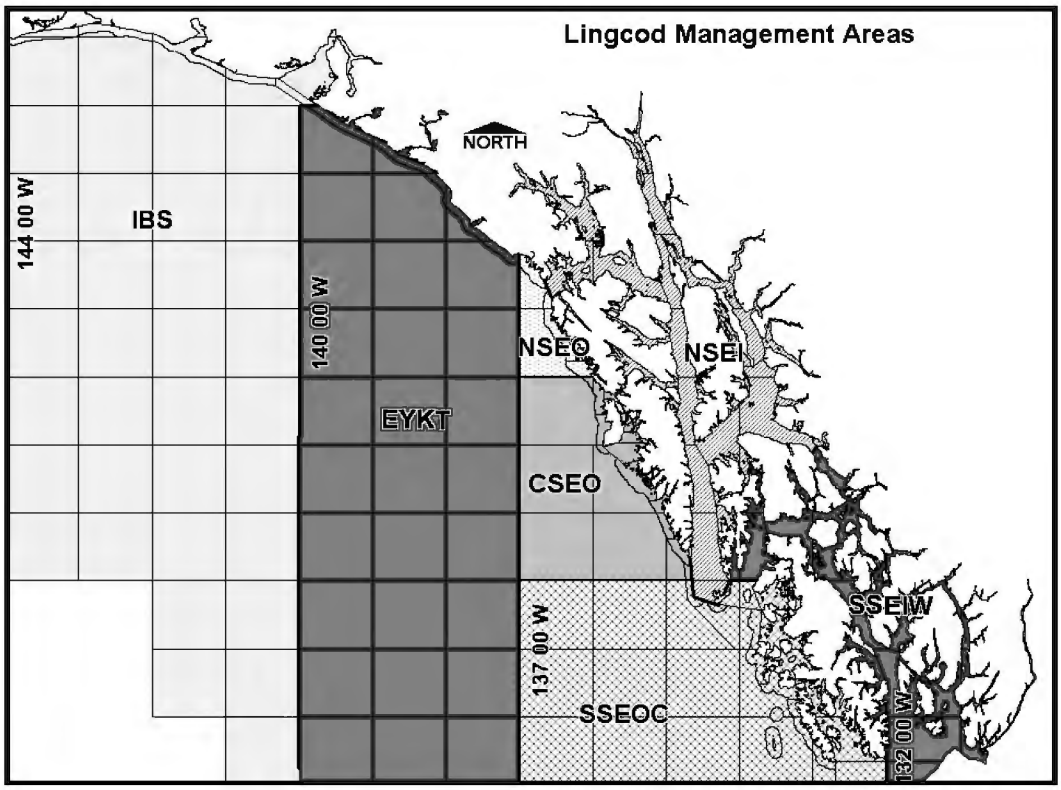


Figure 13 State of Alaska lingcod management areas

3.8 Reasonably Forseeable Future Actions

After discussions with the Alaska Department of Fish and Game and the Habitat Division of the NMFS Alaska Region, NMFS has not identified reasonably foreseeable future actions that would interact with this action to produce significant cumulative effects.

4 Environmental and Economic Consequences

4.1 Environmental Components Potentially Affected

Elimination of the VMS requirement for vessels fishing with dinglebar gear is not likely to affect all environmental components of the GOA. In the case of this action, the alternatives may result in an end to effective enforcement of the restricted no fishing zones for dinglebar gear, and a change in the cost of operating in the dinglebar fishery. Consequently, this environmental assessment focuses on the following potentially affected components: benthic communities / essential fish habitat and human socio-economic activity. No effects are expected on the physical environment, groundfish, marine mammals, seabirds, non-specified species, or prohibited species.

No effect is presumed for these latter components because: (a) lingcod are managed by the State of Alaska in a conservative manner, as are the State and Federal bycatch species caught in the lingcod fishery, and nothing in this action would affect that management; (b) aside from the repeal of the VMS requirement, current fishing regulations (e.g., season and gear types), harvest limits, and regulations protecting habitat and important breeding areas, as described in previous NEPA documents (Section 3.0), would not be changed by any of the alternatives; (c) as noted in subsequent sections, repeal of the VMS requirement is not likely to lead to large changes in the behavior of dinglebar fishermen; (d) no effects are presumed for marine mammals because existing protection measures would not be changed, nor would allowable harvest amounts change for important prey species; also there are no documented occurrences of marine mammal injury or mortality from the Alaska troll fisheries (2008 List of Fisheries, 72 FR 66048, November 27, 2007); (e) because the changes in operations are expected to be limited, this action is not expected to increase the likelihood of the introduction of invasive species into the action area or affect the safety or health of persons active in Alaska's fisheries. Significance analysis is not required for socio-economic factors. The socio-economic impacts of this action are described in detail in the RIR and FRFA portions of this analysis.

4.2 Essential Fish Habitat

A description of the HAPCs identified as the Gulf of Alaska Coral Habitat Protection Areas is included in Section 3.4. The vulnerable habitats in the HAPCs are those containing red tree coral (*Primnoa* species). There are two issues of primary concern with respect to the effects of fishing on the HAPCs. The first is the potential for damage or removal of fragile biota, which are used by fish as habitat within each area, and the second is the potential reduction of habitat complexity, benthic biodiversity, and habitat suitability.

Only a few studies have been completed in Alaska on the effects of fishing gear on habitat, and none have been done for troll or dinglebar gear, so this discussion is qualitative in nature. Trolling with dinglebar gear can occur over many bottom types and anecdotal information suggests although the gear has been used in the GOA as deep as about 110 fathoms (the next section provides a more detailed discussion of fishing depths), it is generally fished at shallower depths (30-40 fathoms; O'Connell, pers. comm..[5]). The extent to which the gear comes in contact is unknown. Fishermen indicate that they try to avoid contact with the bottom, for obvious reasons. *Primnoa* species are long lived and slow growing, however, and recovery after disturbance is likely to take decades. The restriction of bottom contact gear in these sites is intended to reduce potential disturbance from such gear, although the extent to which disturbance affects living habitats and habitat complexity throughout the GOA is unknown (NMFS 2006b).

[5] Victoria O'Connell, personal communication, April 7, 2008.

This section looks at habitat impacts of the proposed alternatives. The problem statement suggests that one reason the dinglebar fishery may not pose a threat to the protected areas is because there is little-to-no depth overlap between the fishery and the closed areas. This is examined in Sections 4.2.1 and 4.2.2, although the depth evidence is not sufficient to prove that the fishery does not pose a threat to the protected areas. Further information is, however, available using 2007 fishery VMS data correlated with available bottom habitat information, regarding the area overlap between the fishery and the closed areas. This evidence is analyzed in Section 4.2.3, and habitat conclusions are summarized in Section 4.2.4.

4.2.1 Fishing depth estimates from logbook data

Fishing operations are required to fill out a lingcod logbook and attach the logbook pages detailing a landing to the fish ticket documenting that landing. Regulations state that the logbook must be updated within 24 hours after midnight local time on the day of operation. It is not clear if operations tend to complete the logbook as they complete their fishing, at the end of the day of fishing, at some point prior to return to port (on which they may fill out multiple daily records), or on their return to port.

In the latter situations, estimates of area, depth, and other characteristics of their fishing operations may be somewhat rough or subject to memory-biases. Operators are required to update logbooks with estimates of average depth within 24 hours after midnight local time on the day of operation. It is not clear how the respondents determine the range of depths within which they fished, or how they weight them to compute the requested average depth. Since they are asked for an average depth, it is reasonable to assume that each depth estimate has an associated range of depths around it within which the gear was fished. While the request for an average leads one to assume that these are not maximum depths at which the gear was used, this cannot be assumed in every case; a respondent may have used an estimated maximum depth to respond to this question. Responses are not routinely checked against other information. Prior to the introduction of VMS in 2007, such a cross-check was not even possible.

Logbook depth information for a ten year period (1998-2007) was obtained from the Alaska Department of Fish and Game. Observations were selected for vessels targeting lingcod with dinglebar gear. Data was obtained pursuant to a commitment to respect the data confidentiality, and not report the results of individual observations. Thus, where necessary, data have been grouped so that information for no less than three vessels is reported. Data confidentiality reflects the fact that individual operators have different fishing strategies, and that it is desirable for the operators, and for their cooperation in self-reported data collection, that private information about those strategies not be inadvertently revealed.

Examination of the data revealed that fishing strategies, at least with respect to the depths exploited by dinglebar fishermen, have changed over the last ten years (Table 3). The first five year period (1998-2002) included 1,214 logbook entries for 77 vessels. Forty-seven of these observations (or 4% of the total), associated with three vessels, reported average depths between 80 and 110 fathoms. On the assumption that these are average depths, the information suggests that some fishing may have taken place at depths greater than 110 fathoms. However, as noted, the potential daily range on either side of the estimated averages cannot be determined from the logbook data. Table 3 also indicates that the bulk of the fishery occurs at far shallower depths, generally less than 50 fathoms.

Table 3 Average fishing depths in the dinglebar fishery, aggregated by 5-year period.

Average fishing depths (fathoms)	1998-2002		2003-2007	
	Number of observations	Percent of total	Number of observations	Percent of total
80 and deeper (1998-02); Deeper than 80 (2003-07)	47	4%	0	0
79 to 51 (1998-02) 80-51 (2003-07)	119	10%	43	6
50 to 26	682	56%	372	54
25 or less	366	30%	271	39
Missing	0	0	2	<1
TOTAL	1,214		688	

NOTE: Depth information based on self-reported average depths per landing from lingcod logbooks; deepest categories defined so as to protect confidential information.

During the second five year period, maximum depths appear to be shallower. The second five year period (2003-2007) included 688 logbook entries for 57 vessels. Thirteen observations (or 2% of the total), associated with three vessels, reported average depths between 70 and 80 fathoms.[6] Again, on the assumption that the reported depths are averages, some fishing likely took place at depths greater than 80 fathoms, but it is impossible to quantify this. At the same time, 94% of the fishery reported average fishing depths of 50 fathoms or less.

4.2.2 Estimates of depth in the restricted HAPCs

The preceding section examines logbook data which records the average depth of fishing. The Council restricted fishing in five areas within three designated HAPCs, to protect corals known to be present in those areas. In general, *Primnoa* species in the protected HAPCs are found below 70 fathoms (see Section 3.4). However, information on coral distribution is based on a limited number of submersible dives, and the full distribution of corals within the restricted areas is not known.

The bottom depth of the restricted areas is, however, known, and Table 4 shows the estimated total surface area for each of the five restricted HAPC zones near Southeast Alaska, and shows the proportion of that area falling into different depth categories. Taken with the logbook data above, the table indicates that looking exclusively at the relative depths, there is potentially some overlap between a small portion of the fishery and the restricted areas. Consequently, it is necessary to look at other factors to assess the threat posed by the dinglebar fishery to the closed areas and their protected species.

[6] Depth information was missing for two observations.

Table 4 Depths within restricted areas of HAPC.

Restricted HAPC	Area (in square kilometers)	Bottom depth (fathoms)	Percent of area
Cape Ommaney	2.92	> 120	100
Fairweather (FN1)	2.65	<80	0.5
		80 to < 90	77.9
		90 to < 100	21.6
Fairweather (FN2)	10.99	<80	9.1
		80 to < 90	18.6
		90 to < 100	42.9
		100 to < 110	24.9
		110 to < 120	4.6
Fairweather (FS1)	27.0	<80	13.9
		80 to < 90	26.5
		90 to < 100	29.3
		100 to < 110	21.5
		110 to < 120	6.5
		> 120	2.4
Fairweather (FS2)	2.95	80 to < 90	75.4
		90 to < 100	24.6

Note: Fairweather FN1, Fairweather FN2, Fairweather FS1, and Fairweather FS2 are names for the restricted areas used in Federal regulations, in Table 26 to 50 CFR part 679.

4.2.3 Location of the fishery based on 2007 VMS data

VMS units were required for the first time in this fishery in 2007. Therefore we have only one year of detailed location data on these fishing operations. A visual examination of the VMS data did not show that vessels entered restricted critical habitat during their fishing operations in 2007.[7] Activity in those areas, of course, would have been illegal, and the VMS units themselves may have provided a deterrent effect.

Fairweather Ground NW/SW Area

Figure 14 identifies the area on Fairweather Ground where the highest density lingcod fishing occurred in 2007, based on VMS data. Data confidentiality prevents the disclosure of the full distribution of dinglebar fishing in this area. According to ADFG multibeam data and submersible dives, the western edge of the Fairweather Ground, where the highest amount of effort is observed, is comprised mainly of highly folded sandstone with some gravel and pebble at the edge. Just to the east and southeast, effort drops off and bedrock and glaciated sedimentary rock predominate.

[7] The VMS data itself is confidential and cannot be released.

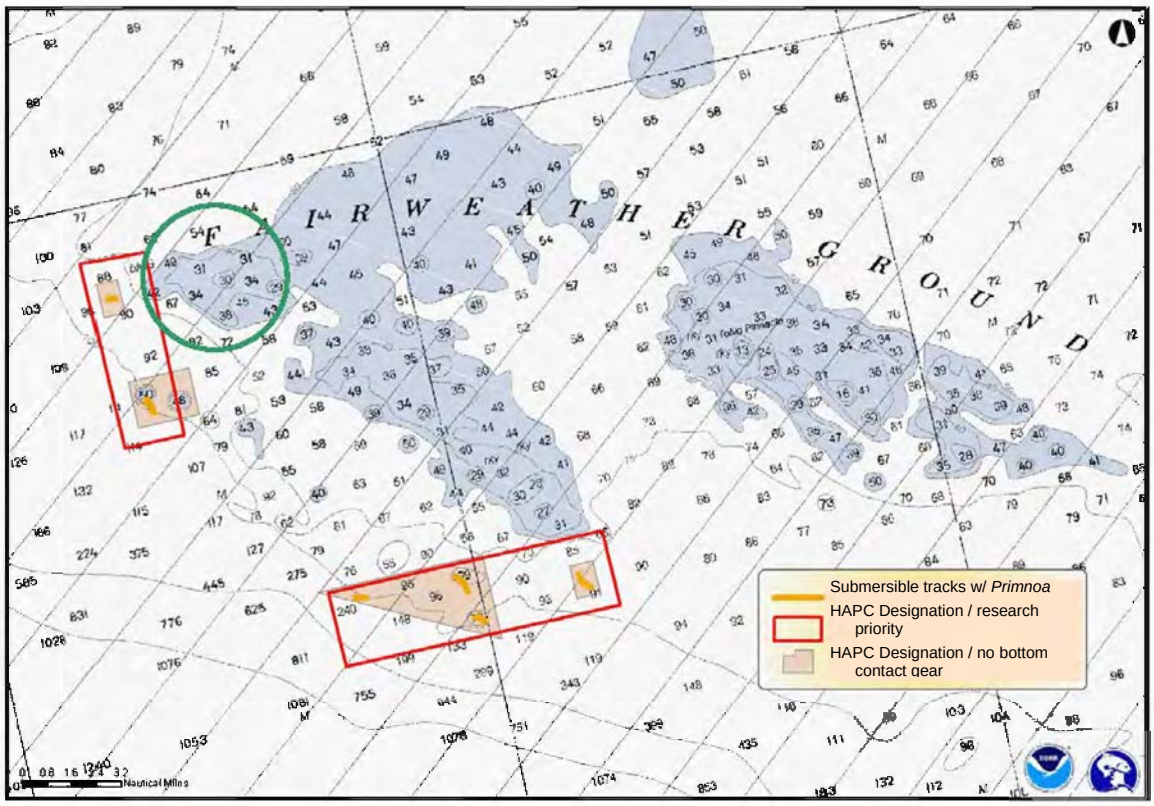


Figure 14 Location of high density dinglebar fishing effort on Fairweather Ground, indicated by green circle.

Figure 6 and Figure 7 (from Section 3.4.1, pages 14 and 15) show that most known *Primnoa* coral are present along the western Fairweather Ground, between the 70-100 nm contour. Efforts to locate coral in shallower areas were not successful (Figure 7). VMS data indicate that very little fishing effort occurred in 2007 anywhere in that contour.

The VMS data was assessed to determine whether or not vessels were operating in areas that were similar to those in which fishing was prohibited. The only restricted HAPCs that appear to have depth ranges similar to those most commonly fished on the Fairweather Ground are two pinnacles at FN2 (Figure 14). However, the 48 and 50 fathom pinnacles inside FN2 are likely composed of bedrock and rise from depths of approximately 100 fathoms (Brylinski, pers. comm.).[8] There is no data that shows whether these sites were previously fished for lingcod. However, two rises at 43 and 40 fathoms, located just to the southwest of FN2, are similar, and were not fished in 2007 even though they are within the open area.

Cape Ommaney

The ADF&G statistical area within which the Cape Ommaney protected area is located (355601) has only seen sporadic dinglebar fishing since 1999. The aggregate pounds cannot be reported because only two vessels were active here. In six of the nine years, there were no harvests from this area, and in 2007, the one vessel that fished in the area did not fish on the periphery of the closed area. This area does not appear to be very important to the dinglebar fleet.

[8] Brylinski, Cleo. Alaska Department of Fish and Game. Personal communication, March 12, 2008.

4.2.4 Direct and Indirect Impact Significance Conclusions

The key points from the preceding analysis are:

- Dinglebar gear was fished shallower in the last five years than it was in the preceding five years. Logbook data suggests that in the earlier years a small portion of the dinglebar fleet (3 vessels, 4% of the fleet's total fishing days) was fishing at average depths between 80 and 110 fathoms. However, in the last five years the deepest fishing appears to be taking at about 70 to 80 fathoms (also by three vessels, and representing 2% of the fleet's total fishing days; the remainder of fishing occurred shallower than 70 fathoms). Since these are reported average depths, the current maximum depths can be assumed to be somewhat deeper than these.
- In 2007, VMS information indicates that fishermen were not fishing in, or immediately on the periphery of, areas closed to fishing.
- Currently, most dinglebar lingcod fishing appears to take place at depths shallower than 80 fathoms. Only limited amounts of restricted HAPC are found at these depths. These include about a half percent of Fairweather FN1, about 9% of the Fairweather FN2 and about 14% of Fairweather FS1.
- It seems reasonable to assume that persons with average depths of 80 fathoms do fish somewhat deeper. Moreover, in the past some operators have shown a capability of using this gear in deeper waters. Major elements of several of the restricted areas fall into the range of depths from 80 fathoms to just under 90 fathoms. These include about 78% of Fairweather FN1, about 19% of Fairweather FN2, about 27% of Fairweather FS1, and about 75% of Fairweather FS2.
- Based on 2007 VMS data, fishermen were generally not fishing in the deeper waters of the northwestern and southern portions of Fairweather Ground, where the HAPCs are located. Very little effort was prosecuted at all in the Cape Ommaney area.
- A review of the bottom types used within areas open to fishing (based on VMS data) indicates that dinglebar fishermen did not tend to fish in areas similar to those within the restricted areas.

Neither of the alternatives are expected to have a significant adverse impact on the protected habitat. Alternative 2, however, has an adverse impact.

Alternative 1 is the status quo, or no action, alternative. This alternative has no adverse or significant impacts.

Alternative 2, the preferred alternative, would retain the prohibition on the use of dinglebar gear within the protected areas, but would end the VMS requirement. This action could have an adverse impact on the protected HAPC because it would reduce the barriers to fishing in that area. However, based on the available evidence from logbooks and VMS, dinglebar fishermen do not appear likely to use dinglebar gear to fish in the restricted habitat areas. In the absence of such an incentive, VMS units would not be needed in a deterrent or enforcement role. Thus, Alternative 2 is not expected to have a significant environmental impact.

4.3 Effects on the Social and Economic Environment

The impacts on the socio-economic environment are discussed in detail in the RIR and the FRFA. The primary impact of Alternative 2, the preferred alternative, would be a reduction in the costs of operating VMS for the vessels involved and for society.

5 Cumulative Effects

Analysis of the potential cumulative effects of a proposed action and its alternatives is a requirement of NEPA. An environmental assessment or environmental impact statement must consider cumulative effects when determining whether an action significantly affects environmental quality. The Council on Environmental Quality (CEQ) regulations for implementing NEPA define cumulative effects as:

> *"the impact on the environment, which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 CFR 1508.7*).

As noted, after discussions with the Alaska Department of Fish and Game and the Habitat Division of the NMFS Alaska Region, NMFS has not identified any past, present, or reasonably foreseeable future actions that would interact with this action to produce significant cumulative effects.

6 Environmental Analysis Conclusions

Two alternatives are presented in this analysis: no action, and exempt dinglebar fishermen from the VMS requirement. Neither of the alternatives presented in this analysis would have additional effects beyond those already identified and analyzed in this document, and in the FPEIS (NMFS 2004a) and in the groundfish Harvest Specifications FEIS (NMFS 2007).

One of the purposes of an environmental assessment is to provide the evidence and analysis necessary to decide whether an agency must prepare an environmental impact statement (EIS). The Finding of No Significant Impact (FONSI) is the decision maker's determination that the action will not result in significant impacts to the human environment, and therefore, further analysis in an EIS is not needed. The Council on Environmental Quality regulations at 40 CFR 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." An action must be evaluated at different spatial scales and settings to determine the context of the action. Intensity is evaluated with respect to the nature of impacts and the resources or environmental components affected by the action. NOAA Administrative Order (NAO) 216-6 provides guidance on the National Environmental Policy Act (NEPA) specifically to line agencies within NOAA. It specifies the definition of significance in the fishery management context by listing criteria that should be used to test the significance of fishery management actions (NAO 216-6 §§ 6.01 and 6.02). These factors form the basis of the analysis presented in Chapters 4.0, 5.0, 6.0, 7.0, and 8.0 of the attached Environmental Assessment/Regulatory Impact Review/Final Regulatory Flexibility Analysis (EA/RIR/FRFA). The results of that analysis are summarized here for those criteria.

Context: For this action, the setting is the groundfish trawl fisheries of the BSAI and GOA. Any effects of this action are limited to these areas. The effects of this action on society within these areas are on individuals directly and indirectly participating in these fisheries and on those who use the ocean resources. Because this action concerns the use of a present and future resource, this action may have impacts on society as a whole or regionally.

Intensity: Considerations to determine intensity of the impacts are set forth in 40 CFR 1508.27(b) and in the NAO 216-6, Section 6. Each consideration is addressed below in order as it appears in the NMFS

Instruction 30-124-1 dated July 22, 2005, Guidelines for Preparation of a FONSI. The sections of the EA that address the considerations are identified.

1) *Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?*

(EA Section 4.1). Lingcod stocks in Federal waters of the GOA are the only target species that may be affected by this action. The VMS requirement was not introduced to facilitate the management of these stocks. These stocks are currently managed by the State of Alaska under a conservative management regime designed to identify the participating vessels, gather activity information through fish tickets and a logbook program, provide for closed seasons during important reproductive periods, and provide for overall catch limits. This action would not affect any of these measures. VMS not been used for management by the State of Alaska in the past.

2) *Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?*

(EA Section 4.1) Lingcod fishermen take small amounts of rockfish as bycatch. Because of this, they are required to use vessels with FFPs. This action will not affect the harvest or reporting of harvest of rockfish by these fishermen. Rockfish are managed under the GOA FMP and nothing in this action will affect the FMP, regulations adopted pursuant to the FMP, or the rockfish harvest specifications adopted by the Council.

3) *Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in the fishery management plans (FMPs)?*

(EA Sections 4.3 to 4.6). VMS was adopted to facilitate the enforcement of the fishery management regulations prohibiting the use of dinglebar gear in five parts of the designated HAPC. However, the evidence suggests that the threat posed to the protected HAPC by vessels targeting lingcod with dinglebar gear is minimal. Evidence from logbooks suggests that dinglebar gear is rarely used at most of the depths protected by the non-fishing provisions. An examination of VMS data for 2007 did not show fishermen entering these areas, and indicated that they did not tend to fish areas that corresponded to those that were protected. The EA determined that the impact on these areas would be adverse, but because of the minimal risk of impact, would not be significant.

4) *Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?*

(EA Sections 4.1) No. VMS can contribute to the safety of vessels at sea, but it was not introduced for that purpose in this fishery, and the elimination of the requirement will not have a substantial adverse impact on the safety of these vessels. There would be no adverse impact on health.

5) *Can the proposed action reasonably be expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?*

(EA Section 4.1) No, the VMS units in this fishery are not used to monitor compliance with measures introduced to protect species designated as threatened or endangered under the Endangered Species Act. This action does not modify any measures introduced to protect endangered or threatened species. Elimination of this requirement would have no impact on threatened or endangered species.

6) *Can the proposed action be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?*

(EA Section 4.3 to 4.6). No. Question 4 asks a similar question, and the response to that question addresses this.

7) Are significant social or economic impacts interrelated with natural or physical environmental effects?

(EA/RIR/FRFA Chapters 7.0 and 8.0) No. The costs to the industry and society of compliance with these measures are small, and already have been incurred to a large extent.

8) Are the effects on the quality of the human environment likely to be highly controversial?

No. This action affects a small number of operations who incur small compliance costs. The potential impact on HAPC is not significant.

9) Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?

(EA Section 4.3 to 4.6). No. This action would not affect any categories of areas on shore. The potential impact on HAPC has been addressed in Question 4.

10) Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

No. Evidence from several sources indicates that there is likely to be only modest dinglebar activity in the protected areas in the absence of VMS use. This evidence includes anecdotal reports from ADF&G staff and a fishermen, an evaluation of depth reports from logbook data, and evaluation of location information from the 2007 VMS reports.

11) Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?

(EA Chapter 5.0) No. Discussions with the Alaska Department of Fish and Game and the Habitat Division of the NMFS, Alaska Region, did not identify reasonably foreseeable future actions that would interact with this action to produce cumulatively significant effects.

12) Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?

No. This action would have no onshore impacts. The potential impact on HAPC has been discussed above in the answer to Question 3. The analysis finds that this will be adverse, but not be significant.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

(EA Section 4.1) No. For the purposes of this action, vessel movements are the primary means by which invasive species might be introduced or spread. Elimination of the VMS requirement would only affect a few vessels, and would have a minimal impact on their movements.

14) Is the proposed action likely to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

No. This is a unique action based on a careful evaluation of new data, and addressing the impact of a specific fishery on a specific resource. It does not establish any new principles or precedents.

15) Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?

No. Dinglebar fishermen appear to have little incentive to operate in the protected areas. In recent years, it appears that vessels have fished only to a very limited extent at depths occurring in the protected HAPC or in similar areas.

16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

(EA Chapter 5.0) No. The answer to Question 11 applies here.

7 Regulatory Impact Review

7.1 Introduction

This Regulatory Impact Review (RIR) evaluates the costs and benefits of an action to repeal regulatory requirements that vessels with federal fishing permits and dinglebar gear (a type of troll gear) on board in the Gulf of Alaska carry transmitting VMS units.

7.2 What is a Regulatory Impact Review

This RIR is required under Presidential Executive Order (E.O.) 12866 (58 *FR* 51735, September 30, 1993). The requirements for all regulatory actions specified in E.O. 12866 are summarized in the following statement from the order:

> *In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits shall be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nonetheless essential to consider. Further, in choosing among alternative regulatory approaches agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

E.O. 12866 further requires that the Office of Management and Budget review proposed regulatory programs that are considered to be "significant." A significant regulatory action is one that is likely to:

- Have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, local or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

7.3 Statutory Authority

The National Marine Fisheries Service manages the U.S. groundfish fisheries of the Gulf of Alaska management area in the Exclusive Economic Zone under the Fishery Management Plan (FMP) for that area. The North Pacific Fishery Management Council prepared the FMP under the authority of the Magnuson-Stevens Fishery Conservation and Management Act. Regulations implement the FMPs at 50 CFR part 679. General regulations that also pertain to U.S. fisheries appear at subpart H of 50 CFR part 600.

7.4 Problem Statement

The Council has adopted the following problem statement:

> Dinglebar fishermen fishing for lingcod are required to carry VMS to enforce regulations to prohibit fishing in HAPC. However, the threat they pose to Gorgonian corals protected within HAPC may be small, and insufficient to justify the costs of VMS. For example, log book evidence suggests that most dinglebar fishing takes place at average depths above 50 fathoms. Other evidence suggests that most of the protected HAPCs occur below 80 fathoms.

7.5 Description of the Alternatives

Alternative 1: Status quo; no change in current regulations
Alternative 2: Exempt dinglebar fishermen from the VMS requirement (Preferred)

7.6 Background information on VMS and VMS expenses

7.6.1 Typical expenses association with VMS installation and operation[9]

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

- Purchase and freight
- Installation charges
- Initiation fee, if any
- Sales taxes
- OLE notification
- Transmission costs
- Maintenance and repairs
- Lost fishing time due to unforeseen breakdowns
- Replacement cost

There is no statistical information about the extent to which fishermen paid list price or a negotiated or sales 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. Under these circumstances, the individual vessel costs estimated here are rough approximations to plausible average values. The cost estimates used in this analysis are summarized in Table 2 and documented in the remainder of this section. The sections that follow provide estimates of the present value of the cost of the VMS requirement to a typical operation, and estimates of the costs of the requirement in 2007 (the first year in which it was effective).

[9] These cost estimates were originally prepared in the spring of 2006 for another VMS analysis (NMFS, 2006a). They were spot checked in February 2007 and again in the fall of 2007. Unless otherwise noted, the analysis in this section is based on the earlier document. Refer to that document for detailed background information. The only significant changes introduced for this analysis are (a) an adjustment in the estimated purchase costs which takes account of information on actual reimbursements for unit purchase provided by the Pacific States Marine Fisheries Commission under the program described in this section, and (b) a discussion of the potential impact of costs on residents in a remote community.

Table 5 Summary of cost estimates used in this analysis

Purchase and freight	$1,500
Installation	$239
Brackets	$60
Initiation fee (with satellite service provider)	$150
Notify NOAA OLE	$11
Sales taxes	$108
Reimbursement for purchase	$1,500
Total acquisition and installation w/out reimbursement	$2,068
Total acquisition and installation with reimbursement	$568
Transmission costs for one year	$111
Maintenance and repairs for one year	$77
Note: these are estimates of the costs for a "typical" operation that bought and operated a VMS unit to comply with the regulations requiring its use on a vessel with an FFP using dinglebar gear. The reasoning behind the estimates is summarized in the text in this section. This table was revised on March 31, 2009 to correct two errors. "Notify NOAA OLE" was originally $108 and should have been $11; "sales taxes" was $18 and should have been $108.	

Purchase and freight[10]

Five VMS units are NMFS type-approved for Alaska. List price estimates are summarized in Table 5. Marine electronics firms in Alaska have been found selling units for more and less than the list price. Prices include freight, but not installation.

Vessel owners purchasing a VMS unit in order to comply with Federal regulations governing dinglebar fishing for lingcod in the GOA are eligible for a reimbursement of the initial purchase cost of the unit. The reimbursement covers the costs of purchase and freight, but not the costs of sales taxes, installation, annual operating expenses, or replacement. The program is operated through the Pacific States Marine Fisheries Commission (PSMFC), which reimburses up to $1,750 for the purchase of a VMS to meet regulatory requirements in the Alaska Region. A review of PSMFC reimbursement payments from the summer of 2007 to five vessel owners using their vessels in the dinglebar lingcod fishery suggests that actual unit costs averaged about $1,500. In this analysis, this cost has been used as an estimate of the average cost of purchase and freight to the vessel owners, and of the size of the reimbursement payments.

[10] This section assumes that vessel operators will purchase a single unit. Anecdotal evidence suggests that at least some larger vessels have purchased additional backup units.

Table 6 Costs of different VMS units

UNIT	Manufacturer	List Price	Transmission Costs (1)	Activation Fee	Accuracy	Email Capable (2)	Satellite System
T&T 3026-S	Thrane & Thrane	$1,650	$2.88 / Day($86.40 / Month)	None	10 Meters	Yes	Inmarsat
T&T 3026-D	Thrane & Thrane	$1,750	$2.88 / Day($86.40 / Month)	None	10 Meters	Yes	Inmarsat
Stellar ST-2500G	Skymate	$1,599	$55.58 / Month($1.85 / Day)	$149.00	10 Meters	Yes	Orbcomm
Stellar St-2500G	Metocean	$1,599	$69.99/month ($2.25/day)	$99	10 meters	Yes	Orbcomm
Watchdog	Faria	$1,620	$59.95/month	None	10 meters	Yes	Iridium

(1) Transmission costs assuming 1/2 hour reports (30-day month); (2) Requires computer or message terminal; Installation fees have been quoted from $200 - $600 depending on the vessel; Warranty is two years for T&T units. Warranty is one year for Skymate Units. These cost estimates were prepared in early 2006 and modified in late 2007 by the addition of the Faria unit.

VMS units are a business expense. Tax deductibility would reduce the costs of these units to fishermen. However in a cost and benefit analysis from a national accounting stance, the tax savings would be a transfer payment and would not affect the costs or the benefits.

Installation

Installation requires placement of the VMS unit itself, placement of GPS and VHF satellite antennae, running of cables between the system components and the power source, and power hookup. Installers may need to add brackets and poles to the cost of the VMS packages during installation.

Buyers can install their own units. Installation services are also available from vendors or electricians. Vendors have indicated that one to two hours of installation time are typical, and that they charged on the order of $90/hour for the service.

Installation time can take more than two hours. Other NMFS estimates have ranged up to four to six hours. Installation may take longer, for example, when a 12 volt DC hookup is not convenient to a location where the VMS unit can be installed.

A "most-likely" cost for installation has been estimated assuming that a normal installation would take about three hours for a self-install[11], or two hours for a professional installation, and that each is equally likely. The cost for a typical installation was estimated to be $239.[12]

[11] In the course of preparing this analysis NMFS learned of an instance where a self-install took about 10 hours over several days. The estimated cost of this would have fallen within the highend of the range of cost estimates, however.

[12] Assuming that a normal self-install has an opportunity cost of $25/hour and takes three hours, and that a professional installer charges $90/hour for two hours work, and that each approach is equally likely, the estimated weighted average cost for a normal install is $128. A minimum installation cost of two hours of self installation at $25/hour is $50. A maximum installation cost, in a worst case scenario, takes six hours of a professional's time at

VMS units require brackets for installation. The units may be purchased with brackets, or fishermen may be able to obtain brackets elsewhere for installation. Purchase of brackets may be an additional expense, running from about $30 for two brackets and up to $100 or $150 if pipes were needed for antenna placement, in addition to brackets. In this analysis, the distribution of installation costs was approximated by a triangular distribution with a minimum value of zero, a maximum value of $150, and a most likely value of $30. The mean of this distribution was $60, and this value was used to calculate aggregate costs.

VMS failure is discussed later. Conversations with vendors and recent NMFS discussion of VMS both suggest that failure rates may be higher for self-installed units. Problems may occur in the placement of antennas, or in the power hook-up. Thus, installation costs and repair costs may be negatively correlated.

Initialization fee

Skymate units require an initiation fee of about $149 dollars to make them operational, while Metocean units cost about $99. The Thrane & Thrane units do not require an initiation fee. Taken together, the cost of the Skymate unit and its initiation fee are very similar to the price of the Thrane & Thrane 3026-D unit. The initiation fee must be renewed, if a subscription to transmission services is allowed to lapse. Subscriptions can be held open with $5/month drydock fees.

Sales tax

Sales taxes may be applicable to the cost of the unit itself, the costs of brackets, and the costs of installation services. Sales taxes will vary by the jurisdiction within which the VMS unit is bought. Sales taxes in Alaska coastal communities in which fishermen are likely to find marine electronics stores selling VMS units tend to range between 3 and 6 percent. Fishermen may be able to get a VMS from a jurisdiction with no sales tax. A 6 percent rate has been used in this analysis. This is a real cost to the fishermen concerned, however in a cost-benefit analysis, taxes are treated as a transfer payment from one group to another. The sales tax, charged on the brackets and installation, is estimated to be $108 in this analysis.

OLE Notification

Before participating in a VMS fishery, participants are required to notify OLE that their VMS transmitter is activated. Upon completion of purchase and installation of the VMS units, and at least 72 hours prior to participation in a fishery that requires VMS, the participant must supply power to the transponder and fax a check-in report to OLE. The information on this report will enable NMFS to verify that the VMS system is functioning and that VMS data are being received. NMFS estimates that this would take the vessel operator about 15 minutes and cost $6 for a fax. Total cost is estimated to be $11.

Transmission costs

Vessels that will be expected to acquire VMS under the rule implementing the EFH/HAPC protection measures are assumed to use a transmission package based on the package sold in conjunction with the

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$90/hour, and comes to $540. In this analysis, the distribution of installation costs was approximated by a triangular distribution with a minimum value of $50, a maximum value of $540, and a most likely value of $128. The mean of this distribution was $239, and this value was used to calculate aggregate costs.The mean of a triangular distribution is equal to the average of the low, high, and most likely values.

Skymate unit.[13] The Skymate unit comes with various transmission packages, ranging in cost from about $20 to about $74 per calendar month for different levels of transmission activity. Additional costs are incurred if the monthly transmission level is exceeded. The highest priced package provides for more transmission capacity per month than is necessary to meet NOAA requirements. The packages from this manufacturer offer "dry dock" fees of $5/month to cover months during which the vessel is not expected to transmit (this would allow the fishing firm to avoid paying a new activation fee if it stopped transmitting for a long period).

Vessels that acquired VMS under the EFH/HAPC rule are assumed to see their VMS costs for "active" months billed as follows. Units that will have to acquire VMS, were assumed to purchase a VMS coverage package costing $38.99 a month. This buys the transmission of an estimated 20,000 characters. Transmission every half hour for 31 days requires an estimated 29,760 characters. Under this package, additional characters cost $1.70 per 1,000. Operations were assumed to buy an additional 10,000 characters for $17. Total cost per month of fishing activity was estimated to be about $56. These operators were assumed to pay a "drydock fee" of $5/month for the remaining months. The drydock fee provides for months without transmissions, and allows the fishermen to avoid paying a new activation fee of $150 upon returning to active operation.

Annual transmission costs are the sum of transmission and drydock costs. Some participants in the fishery target only in the EYKT directed fishery. For fishermen acquiring VMS for the this area only in the dinglebar fishery, and who will only use it in one calendar month, total annual transmission costs for a fisherman who operated subject to a VMS requirement for one month and did not make VMS transmissions in the other eleven months, would be estimated to be $111 ($56/month for one month and $5/month for eleven months). This region has the highest participation and is usually closed in 10 to 12 days, so most vessels would only require VMS for 1 month. Moreover, as noted in Figure 5, most vessels made only one week's worth of landings in 2007. It is possible through error or paperwork problems that some fishermen may end up paying for more months of transmissions than they really require to meet regulatory requirements. There are a few landings that usually occur in Federal waters throughout the summer in CSEO and SSEOC so the VMS operation may be necessary for a longer period than one month. The season goes until November 30.

Maintenance and repairs

VMS units require maintenance. Batteries will need to be monitored and replaced periodically. Operators of smaller vessels with limited electrical systems, who may be operating the VMS units off of the unit's rechargeable battery, may have to periodically recharge the battery. This could be done, for instance, off of a car's cigarette lighter. Owners may also have to monitor antenna and power connections for corrosion, and clean them as necessary. In addition, some systems may require software to be updated. Many of the transponders can have their features upgraded by being reloaded/flashed with updated versions. Some vessel owners have found that data from apparently functioning VMS units is not reaching OLE. These cases may require troubleshooting.

A certain number of units will break down each year. Future breakdown rates and associated costs are unknown. OLE experience with the units installed under the Steller sea lion protection program suggests a breakdown rate of about 3 percent to 5 percent per year for those units.

[13] This assumption does not imply NOAA endorsement for the Skymate unit. One of the other units might have been chosen to make this comparison, or some hypothetical unit, with characteristics combined from several units might have been used.

Operations that already have VMS units, or that will acquire them independently of this action, won't incur more breakdowns because of this action. VMS units already operating would face these costs whether or not this action is taken. Breakdown costs will be incurred by operations making new VMS installations because of this action.

As noted earlier many of the problems arising with these units are caused by mistakes made during self-installs. These may occur early in the unit life cycle. Problems mentioned include positioning of antennas, and problems with power supply.

New units will initially be under warranty. Thus a large part of the risk of replacement costs and service charges is transferred from fishermen to vendors. Since cost of the warranty is included in the purchase price, it is similar to the purchase of an insurance policy. Thrane & Thrane units carry a two-year warranty, while Skymate units carry a one-year warranty. Skymate vendors generally address warranty responsibilities by swapping out the defective unit for a new one.

NMFS estimates the time required to maintain the antennas and electrical systems on the vessel operator is estimated to be approximately 2 hours per year. This comes to $50 if done by the vessel's personnel, or $180 if professionally serviced (using the estimates of opportunity costs and professional service used in the installation discussion earlier). Unit failures are assumed to be covered by warranty, and to be infrequent after the first year of operation. Units will be replaced at some point; replacement is discussed below.

The low end cost for maintenance and repairs is expected to be zero in a situation where no repairs and minimal maintenance are needed. The most likely cost is estimated to be two hours of maintenance by the vessel's crew, estimated to be about $50. The high end cost is assumed to be two hours of professional assistance, costing $180. Note that many problems are likely to be dealt with under warranty by switching out an old unit for a new one. In these cases, the replacement should be able to take advantage of the cables and brackets placed for the original installation. In this analysis, the distribution of maintenance and repair costs was approximated by a triangular distribution with a minimum value of zero, a maximum value of $180, and a most likely value of $50. The mean of this distribution was $77, and this value was added to transmission expenses to estimate annual operating costs.

Lost fishing time due to unforeseen breakdowns

Unit breakdown may cause vessel operators to lose fishing time and revenues. An operator who becomes aware that transmission of automatic position reports has been interrupted, or when notified by NMFS that automatic position reports are not being received, must contact OLE and follow the instructions provided.

OLE handles breakdowns on a case-by-case basis. Their requirements may depend on such considerations as whether or not the vessel is at the dock or is fishing, and if it is fishing, where it is fishing and how much longer it wants to stay out. NMFS does not normally require a vessel to interrupt a fishing trip and return to port when a breakdown is identified. In the twelve months ending in early August 2006, there were about ten instances of VMS reporting failures aboard vessels that were away from port and engaged in some aspect of fishing operations. When this happened, OLE communicated directly with owners or operators and provided direction that usually included the allowance to finish up their operation (e.g., finish pulling their gear) and to obtain service once in port to rectify the VMS reporting issue(s). In a recent instance, OLE directed the vessel to provide periodic position reports until they were back in port and obtaining VMS service/repair. A vessel with a defective VMS unit will have to get it repaired before it begins a new trip.

As noted, experience with the ARGOS VMS units, adopted to enforce the Steller sea lion protection measures, but now being phased out, demonstrated that unit replacement rates were about 3 percent to 5 percent per year. Because of the low apparent breakdown rate, and OLE's policy for when they do, only a small number of fishing vessels with VMS are expected to experience fishing interruptions because of unit breakdown during a year.

Quantitative estimates of the size of these costs cannot currently be made. Based on OLE experience and practice, it is likely that the costs imposed on fishing operations underway will be small. It is impossible to estimate the potential cost to vessels that must repair a VMS unit before departing to go fishing. These will depend on the numbers of unit breakdowns, the distribution of VMS vendors in communities along the Alaska coast, on the ease with which repair work can be completed or replacement units supplied.

Replacement cost

Under the status quo alternative, fishermen would have to replace their VMS units as they wear out, as they become technologically obsolete, or as regulatory requirements changes. Thus, their initial purchase expenditures do not represent the full lifetime cost of this requirement for fishermen.

NMFS has had a relatively short period of experience with VMS, and information has not yet been compiled which would permit estimation of typical VMS lifetimes on different classes of vessels under normal working conditions. Based on anecdotal information, NMFS estimates the typical VMS lifetime to be 4-5 years. Because of advances in VMS systems, some models may become obsolete in less than five years. Units may become technologically obsolete, and/or find their OLE type-approval withdrawn. For example, in the case of the ARGOS system, type-approval was withdrawn and new installations were not permitted after early 2004. Fishermen may also retire older units and adopt new ones if the combination of new unit costs and monthly transmission fees would be less expensive for them, or if new features make this attractive. Anecdotal evidence suggests that, in some instances, ARGOS units have been replaced for this reason.

Over the medium to long term, it is likely that technological change and increasing competition will reduce the prices of replacement units. While price indices have not been prepared, some experience bears this out. Despite this long-run expectation of declining prices, prices have been known to increase in the short run, although some of these price increases may have been associated with changes in unit quality.

Only four manufacturers are currently type approved to serve the Alaskan market. In some instances, small numbers of businesses in an industry may be very competitive. However, small numbers, and concentration of sales among a few firms, are often indicators of relatively low levels of competition. It is possible that competitive pressure on vendors to reduce prices is limited.

Purchase, installation, and repair in remote communities

Fishermen operating out of small and remote home ports may face higher costs for purchase, installation, and repair of VMS units. This may also apply to some who live in larger communities, but off the road systems of those communities. Fishermen operating out of these ports may not have access to a local marine electronics shop, may have to order equipment by mail, self-install, or travel to and from a larger port for installation and service. If they tend to self-install proportionately more, they may tend to have a greater frequency of VMS breakdown. Fishermen are likely to address these cost considerations by "piggy-backing" VMS related tasks on top of other activities that take them to larger ports. As shown in Figure 6, in recent years a disproportionate share of active vessels in this fishery have Sitka and Juneau home ports. These issues should not be as serious in these ports. Other vessels have been homeported in

Washington State. Since 2003, small numbers of vessels have been homeported in Hoonah, Wrangell, and Yakutat.

Present value of VMS investments

As noted, the VMS requirements under consideration in this analysis are expected to be permanent. After their initial investment in VMS units, fishermen will still be expected to incur annual operating costs, and to purchase new VMS units as existing units fail, or become technologically obsolete. Thus, VMS units represent a long-term financial commitment by fishermen. The present value of the cost of an individual VMS investment is estimated here for a vessel acquiring a VMS for use only in the dinglebar ling cod fishery in Federal waters. This unit is only expected to be used during one month a year.

As summarized in Table 2, the cost of acquiring and installing a VMS unit is estimated to be $2,068 ($1,500 for purchase and freight, $239 for installation, $60 for brackets, $150 for initiation fees, $108 for additional sales taxes, and $11 to notify NOAA). Of this, $1,500 is assumed to be reimbursable by the Pacific States Marine Fisheries Commission. Annual expenses are estimated to be $63 for one month of transmission costs, $5 for "dry-dock" fees in each of eleven other months, and $77 to maintain the units in working order.[14] Units are assumed to be replaced every four years.

Assuming no decline in the price of VMS units or annual operating costs over this period, and reimbursement for the initial purchase cost of the VMS, the present value of the cost of the VMS requirement over a 20 year period, at an estimated real rate of interest of 3.92 percent[15], would be $9,100. This estimate may be high if VMS prices decline over the 20 year period, or if unit life times are longer than assumed. Shorter unit lifetimes would increase the present values.

7.6.2 Retrospective estimate of 2007 costs[16]

This section draws on the preceding discussion, and information about VMS usage in 2007, to provide estimates of the costs incurred by individual vessels, and by the fleet and society as a whole, to implement the VMS program in the dinglebar fishery in 2007. Many of the costs discussed here are sunk costs and would not be incurred in the future. That is, they are not attributable to the present action. The next section (Section 7.7) provides the cost-benefit analysis of the two alternatives presently under consideration.

An examination of landings records and VMS tracks indicates that eight vessels fished for lingcod with dinglebar gear in Federal waters off of Southeast Alaska in 2007. All of these carried transmitting VMS units. None of these appear to have been required to carry VMS units by other regulations, thus the VMS requirement can be attributed to their participation in this fishery. Five of these vessels appear to have applied for and received reimbursements for the unit purchase costs; the three additional vessel owners have all indicated an intention, or actually begun, to apply for reimbursement.[17]

[14] Based on logbook data, one vessel was assumed to have fished in two months. This is a modification from the February 2008 discussion paper.

[15] Based on an estimated recent real return on Baa bonds.

[16] The cost estimates in this section are based on those in the discussion paper presented to the Council in February 2008. Changes have been minimal and are identified where they occur.

[17] One additional vessel may have fished in Federal waters with dinglebar gear, and carried a transmitting VMS unit, however, this vessel did not record dinglebar catch in Federal waters on landings records. The FFP for this vessel was endorsed for Pacific cod, therefore this vessel may have been carrying the VMS unit to comply with Steller sea lion protection regulations. This vessel has not been included in the cost calculations in this section.

This section takes two separate perspectives on costs: costs are estimated first from the viewpoint of the fishermen themselves, and second from the viewpoint of society as a whole. These different accounting perspectives generate somewhat different pictures of the costs. The costs to the individual fishermen include the costs to the fishermen who installed and operated the VMS units and went fishing for lingcod in Federal waters. As noted below, there may also be fishermen who might have gone fishing, had they not found that, for them, the additional costs of the VMS units were greater than the benefits of fishing.

Costs to fishermen in 2007

Total costs of purchase, for those who found it cost-effective to buy the units and fish in 2007, are estimated to have been $2,068 per boat[18]. It was assumed that PSMFC would reimburse vessel owners the assumed purchase price, or $1,500 per boat. All fishermen are assumed to apply for and receive these reimbursements. The net costs to the fishermen are therefore estimated to be about $568 per operation, or $4,500 in fleet wide aggregate. An additional allowance should be made for the income tax deduction and depreciation allowances associated with these business purchases but this information is unavailable. In addition to acquisition costs, fishermen are each estimated to have incurred about $195/year in transmission,[19] repair, and maintenance costs for the units. With eight active vessels, this suggests an aggregate fleet wide cost of about $1,600. Thus, the total aggregate fleet wide costs to these operators in 2007, are estimated to have been about $6,100.

It is possible that some vessels were deterred from fishing for lingcod in Federal waters that year as a result of the VMS cost. These vessels would have been used in their next best activity. This activity, for example, may have been fishing for lingcod solely in State waters, or fishing for some other species. Vessels may also have been left idle, when they would otherwise have been fishing for lingcod in Federal waters. The difference between the profits they might have generated fishing for lingcod, and what they earned in their next best activity, provides an estimate of the potential social loss (or gain) from this source. If vessels were deterred, they were deterred because the additional benefits of fishing in Federal waters for lingcod with dinglebar gear (over the benefits of their next best activity) were expected to be less than $763 (the value of purchase and installation costs minus PSMFC reimbursement plus annual costs for 2007).

Thus, aggregate costs of the requirement for all the fishermen active in this fishery in 2007, are estimated to be about $6,100 (the sum of total net purchase costs and installation costs for the eight units and one year of transmission and maintenance). Some unknown additional cost may be associated with fishermen who were deterred from entry. This aggregate cost estimate for the whole fishery assumes an average cost of about $763 for fishermen who participated in the 2007 fishery. For comparison, average revenues from the dinglebar lingcod fishery were about $15,900 in 2007; median revenues were about $12,400.

Public costs in 2007

The value of the reimbursement payments to the fishermen represents an additional cost of the units in 2007. On the other hand, sales tax payments represent a transfer, and not an actual cost. Tax payments are transfer payments from one party to another. The additional reimbursement payments net of sales tax payments were estimated to be $11,100. The total social costs of the VMS use in 2007 (adding this

[18] Table 5 summarizes the cost estimates for individual vessels.

[19] Transmission costs, and the other estimates that depend on them, have been modified slightly from those in the discussion paper presented to the Council in February 2008. An examination of vessel log information supplied by ADF&G found one vessel-month in Federal waters during August 2007. The transmission costs have been modified to account for this additional month.

estimate of public costs to the estimate of private costs in the preceding section) would be about $17,200 (the full cost of eight units, plus a year's operating costs for eight vessels, minus sales tax payments).

For various reasons, this estimate of aggregate social cost is believed to be high. The analysis assumes that the costs of the VMS units are equal to their true social marginal cost. If manufacturers can sell them above marginal cost, because of the presence of market power in the Alaska market, this approach would overstate the true social costs. This estimate also ignores the costs associated with the reimbursement program; the additional costs from this source associated with reimbursing the dinglebar fishermen would be very small. However, the estimate does not include possible costs if vessels were deterred from entry.

7.7 Cost and Benefit analysis

The cost benefit analysis is summarized in a table at the end of this section. Note that the sections on the private and public costs of VMS under the "no action" alternative, also provide measures of the potential benefits from the action alternative, while the section on potential costs of dinglebar activity in restricted HAPC under the action alternative also provides a measure of the potential benefits of the no action alternative.

7.7.1 Private costs of VMS under the "no action" alternative

If Alternative 1, the "No action" alternative, is chosen, the VMS requirement will be retained for fishermen operating in this fishery. Fishermen participating in 2007 have already made their investments in the purchase and installation of a VMS unit. These fishermen will continue to incur annual operating expenses. In addition, these fishermen will have to replace existing VMS units when the units wear out or become obsolete. These fishermen will, presumably, not be eligible for reimbursement for replacement units. Fishermen who enter the fishery in subsequent years will have to incur a share (after reimbursement, as long as the program continues) of the purchase and installation costs, and will incur annual expenses. Some fishermen may be deterred from entering the fishery because of this requirement. These will incur a cost that, at its maximum, would be equal to their "net" cost of installation and operation.

Assuming retention of the dinglebar VMS requirement over a 20 year projection period, and that the first year's costs are now sunk, and basing the projection on the costs enumerated earlier, the average annual cost for an individual fisherman over the remaining 19 years of this analytical cycle is $630. This average "per vessel" cost estimate assumes 19 years with annual operating expenses of $195 and four years with VMS unit replacement costs of $2,068. The average aggregate cost per year for a fleet of eight vessels would be $5,040 per year.

This estimate does not take account of the possibility that some persons, who might otherwise have operated in the dinglebar lingcod fishery, may be deterred by the cost of the VMS mandate, under the status quo. Nor does it reflect the possibility that new fishermen may enter the fishery.

As noted in Figure 11, there has been significant turnover in this fleet in the past. In the seven years since 2001, about half the participants were only active in one year. Only two participated in all seven years. Vessels that do not already have VMS capability, and yet find it worthwhile to enter the fishery despite the cost of a VMS unit will incur the installation costs that are not reimbursed. Over the same 19 year period, this vessel will have one additional, reimbursed VMS purchase in its first year; its average cost would be $660. For these reasons, the $630 estimate above may be a lower bound estimate of the average annual costs per vessel, under the No Action alternative. However, it seems unlikely that the annual costs

of Alternative 1 would exceed the costs of the first year of program operation in 2007. The upper bound of estimates for that year was $6,100.

7.7.2 Public costs of VMS under the "no action" alternative

Under Alternative 1, the Status quo, as long as the reimbursement program continues, fishermen buying their first VMS unit to comply with this regulation will be reimbursed for the cost of the unit. This public subsidy is a cost of the VMS requirement so long as it is provided and utilized. The amount of this reimbursement in 2007 was estimated to be $1,500 per vessel. As shown in Figure 11, from 2000 to 2007, 29 separate vessels fished 65 vessel years in this fishery. That is an average of just over nine vessels a year. If nine of the 29 vessels fished the first year, the turnover rate of between three or four vessels a year would have cycled the remaining vessels through. If new vessels continue to enter the fishery at about this rate, the subsidy might be on the order of $4,500 to $6,000 a year, as long as it continues, assuming retention of the status quo alternative.

If this estimate is combined with the costs borne privately, under Alternative 1, "No action", the estimated aggregate social costs in the fishery (that is, the sum of the privately incurred costs and the public subsidy) might range between about $9,500 and $12,100 per year. For reasons discussed above, and particularly because the upper end of the range for private costs is based on 2007 installation costs, it appears more likely that the actual cost would be in the lower or middle of this range, rather than the upper end.

7.7.3 Potential costs of reduced monitoring of dinglebar activity in restricted HAPC under the action alternative

The benefit of the VMS program is the incremental value to society of the ecosystem services provided by the restricted HAPC because of the presence of the VMS requirement. The value of these services depends on (a) the extent to which dinglebar fishermen would have operated in the restricted area in the absence of the VMS requirement, (b) the incremental damage that those dinglebar fishermen would have inflicted on the restricted HAPC and the speed with which the habitat would have regenerated itself, (c) the value of the ecosystem services provided by the protected habitat and the extent to which the damage to the habitat would have reduced these.

It is not possible to prepare a quantitative estimate of this potential cost. It is possible to make qualitative observations about each of the subjects listed above.

(a) On the basis of the analysis in the EA, it is possible that there would be little incentive to fish dinglebar gear in these areas, even in the absence of the VMS requirement. The HAPC restricted areas would still remain closed to anchoring and bottom contact fishing gear, under regulation. While frequent surveillance by enforcement vessels or aviation patrols is difficult with existing resources, nonetheless, if such surveillance detected the presence of fishing vessels in the restricted areas, enforcement actions might result.

    Additionally, the location of the restricted areas and the type of habitat they encompass also make it unlikely that dinglebar fishermen would have an incentive to fish in these areas. Near the Fairweather Grounds, logbook data indicate that the vast majority of the fishery occurs at depths considerably shallower than those in the restricted areas (Table 3; in the last five years, no more than 6% of the reported average fishing depths occurred below 50 fathoms). According to 2007 VMS data, and substantiated by State of Alaska current and former lingcod fishery managers (Brylinski, O'Connell pers.comm.), the fishery is typically prosecuted on the shallower part of Fairweather Ground, to the east of the restricted areas (Figure 14).

The EA analysis also examined the types of bottom habitat and habitat features that are encompassed in the restricted areas, and compared them to similar areas that are available to fishermen in areas that are open to dinglebar gear. The restricted HAPCs are likely composed of bedrock and large boulders, and based on an analysis of 2007 VMS data, similar areas in other parts of Fairweather Ground were not utilized by the dinglebar fleet in 2007.

With regards to Cape Ommaney, there has been little dinglebar fishing in this area in the past. The grounds at Cape Ommaney are deep, particularly in the restricted HAPC, where the bottom is greater than 120 fathoms deep. In 2007, only one vessel briefly attempted to fish in the Cape Ommaney area, and did not fish on the periphery of the closed area. The depth of the restricted area makes it very unlikely that any fisherman would attempt to fish there, as is supported by the fact that little fishing has occurred at all in Cape Ommaney.

(b) Little is know about the impact of dinglebar gear in these waters. Some fishermen indicate that they fish the gear off the bottom and that it only comes in contact with the bottom intermittently. Others have suggested the gear can be deliberately fished on the bottom. Scientific information on this topic, or on the incremental impact of the gear should it come in contact with the bottom is unavailable. However, the *Primnoa* thickets protected within the restricted HAPC are slow growing, sensitive to bottom contact gear and anchoring, and have a long recovery time.

(c) As noted in Section 3.4.2 of the EA, the *Primnoa* colonies in the restricted HAPC may play important ecosystem functions. Colonies provide important structural habitat for many species and may provide breeding or spawning habitat for at least two species of rockfish. Colonies can provide elevated feeding platforms for many sessile invertebrates, and may provide a source of prey for some species of fish that aggregate in the colonies. Quantitative estimates of the significance of these functions are unavailable.

7.7.4 Summary of costs and benefits

The costs and benefits of this action are summarized in Table 7.

Table 7 Summary of the impacts each alternative would have on groundfish target fisheries, enforcement, fishery management, and the Observer Program.

	Alternative 1: no action	Alternative 2 (Preferred): Exempt dinglebar gear from the VMS requirement.
Does the alternative accomplish the objectives for this action? These are: • Prevent damage to corals from the use of dinglebar gear • Ensure regulations are applied without imposing undue costs on fishermen using dinglebar gear.	The status quo provides the most protection for the HAPC where fishing with bottom contact gear is prohibited, because VMS is used for enforcement. However, there is a question about whether dinglebar fishermen would have an incentive to operate in these areas, in the absence of the VMS. It imposes recurring costs on dinglebar fishermen, although whether these constitute "undue costs" is unclear.	This alternative provides less protection for HAPC, since VMS would no longer be used for enforcement. This alternative reduces the costs faced by fishermen.
Costs of the alternative	No change - Baseline.	The protected HAPC has important ecosystem functions, and takes a long time to recover from damage. There is no scientific information on the impact of dinglebar gear on this habitat. Some fishermen indicate that they do not tend to fish this gear on the bottom, but acknowledge that it can come in contact with the bottom. It has been suggested that bottom contact is common in this fishery. There is no scientific information on this issue. Fishermen may not have an incentive to fish in the protected HAPCs. In the absence of such an incentive, VMS units would not be needed in an enforcement or deterrent role, although the Coast Guard advocates VMS for vessel safety reasons. While there would be an adverse impact on HAPC, the EA determined that it would not be significant.
Benefits of the alternative	No change - Baseline.	Expected industry cost avoidance, on the order of about $630 a year per vessel. Aggregate social costs (which includes the cost of public subsidies) may range from $9,500 to $12,100, and are more likely in the lower half of this range.
Net benefit to the Nation of the alternative	No change - Baseline.	Because it is impossible to provide quantitative estimates of the incremental contribution of the VMS requirement to the present value of the ecosystem services provided by the protected coral habitat, it is impossible to provide a net benefit estimate.

8 Final Regulatory Flexibility Analysis

8.1 Introduction

This FRFA evaluates the impacts on directly regulated small entities of the proposed action to exempt vessels fishing with dinglebar gear in the Gulf of Alaska from complying with VMS requirements. This FRFA addresses the statutory requirements of the Regulatory Flexibility Act (RFA) of 1980, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 (5 U.S.C. 601-612).

8.2 The purpose of a FRFA

The RFA, first enacted in 1980, was designed to place the burden on the government to review all regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization frequently has a bearing on its ability to comply with a Federal regulation. Major goals of the RFA are (1) to increase agency awareness and understanding of the impact of their regulations on small business, (2) to require that agencies communicate and explain their findings to the public, and (3) to encourage agencies to use flexibility and to provide regulatory relief to small entities. The RFA emphasizes predicting impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts while still achieving the stated objective of the action.

On March 29, 1996, President Clinton signed the Small Business Regulatory Enforcement Fairness Act. Among other things, the new law amended the RFA to allow judicial review of an agency's compliance with the RFA. The 1996 amendments also updated the requirements for a final regulatory flexibility analysis, including a description of the steps an agency must take to minimize the significant (adverse) economic impacts on small entities. Finally, the 1996 amendments expanded the authority of the Chief Counsel for Advocacy of the SBA to file *amicus* briefs in court proceedings involving an agency's alleged violation of the RFA.

In determining the scope or "universe" of the entities to be considered in a FRFA, NMFS generally includes only those entities that can reasonably be expected to be directly regulated by the proposed action. If the effects of the rule fall primarily on a distinct segment, or portion thereof, of the industry (*e.g.*, user group, gear type, geographic area), that segment would be considered the universe for the purpose of this analysis. NMFS interprets the intent of the RFA to address negative economic impacts, not beneficial impacts, and thus such a focus exists in analyses that are designed to address RFA compliance.

Data on cost structure, affiliation, and operational procedures and strategies in the fishing sectors subject to the proposed regulatory action are insufficient, at present, to permit preparation of a "factual basis" upon which to certify that the preferred alternative does not have the potential to result in "significant economic impacts on a substantial number of small entities" (as those terms are defined under RFA). Because based on all available information it is not possible to "certify" this outcome, should the proposed action be adopted, and a formal FRFA has been prepared and included in this package for Secretarial review.

8.3 What is required in a FRFA?

Under 5 U.S.C., Section 604(a) of the RFA, each FRFA is required to contain:

When an agency promulgates a final rule under section 553 of this title, after being required by that section or any other law to publish a general notice of proposed rulemaking, or promulgates a final interpretative rule involving the internal revenue laws of the United States as described in section 603(a), the agency shall prepare a final regulatory flexibility analysis. Each final regulatory flexibility analysis shall contain--

(1) a succinct statement of the need for, and objectives of, the rule;

(2) a summary of the significant issues raised by the public comments in response to the initial regulatory flexibility analysis, a summary of the assessment of the agency of such issues, and a statement of any changes made in the proposed rule as a result of such comments;

(3) a description of and an estimate of the number of small entities to which the rule will apply or an explanation of why no such estimate is available;

(4) a description of the projected reporting, recordkeeping and other compliance requirements of the rule, including an estimate of the classes of small entities which will be subject to the requirement and the type of professional skills necessary for preparation of the report or record; and

(5) a description of the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected.

8.4 What is a small entity?

The RFA recognizes and defines three kinds of small entities: (1) small businesses, (2) small non-profit organizations, and (3) and small government jurisdictions.

Small businesses. Section 601(3) of the RFA defines a “small business” as having the same meaning as “small business concern” which is defined under Section 3 of the Small Business Act. “Small business” or “small business concern” includes any firm that is independently owned and operated and not dominant in its field of operation. The SBA has further defined a “small business concern” as one “organized for profit, with a place of business located in the United States, and which operates primarily within the United States or which makes a significant contribution to the U.S. economy through payment of taxes or use of American products, materials or labor...A small business concern may be in the legal form of an individual proprietorship, partnership, limited liability company, corporation, joint venture, association, trust or cooperative, except that where the firm is a joint venture there can be no more than 49 percent participation by foreign business entities in the joint venture.”

The SBA has established size criteria for all major industry sectors in the United States, including fish harvesting and fish processing businesses. A business involved in fish harvesting is a small business if it is independently owned and operated and not dominant in its field of operation (including its affiliates) and if it has combined annual receipts not in excess of $4.0 million for all its affiliated operations worldwide. A seafood processor is a small business if it is independently owned and operated, not dominant in its field of operation, and employs 500 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide. A business involved in both the harvesting and

processing of seafood products is a small business if it meets the $4.0 million criterion for fish harvesting operations. Finally a wholesale business servicing the fishing industry is a small business if it employs 100 or fewer persons on a full-time, part-time, temporary, or other basis, at all its affiliated operations worldwide.

The SBA has established "principles of affiliation" to determine whether a business concern is "independently owned and operated." In general, business concerns are affiliates of each other when one concern controls or has the power to control the other or a third party controls or has the power to control both. The SBA considers factors such as ownership, management, previous relationships with or ties to another concern, and contractual relationships, in determining whether affiliation exists. Individuals or firms that have identical or substantially identical business or economic interests, such as family members, persons with common investments, or firms that are economically dependent through contractual or other relationships, are treated as one party with such interests aggregated when measuring the size of the concern in question. The SBA counts the receipts or employees of the concern whose size is at issue and those of all its domestic and foreign affiliates, regardless of whether the affiliates are organized for profit, in determining the concern's size. However, business concerns owned and controlled by Indian Tribes, Alaska Regional or Village Corporations organized pursuant to the Alaska Native Claims Settlement Act (43 U.S.C. 1601), Native Hawaiian Organizations, or Community Development Corporations authorized by 42 U.S.C. 9805 are not considered affiliates of such entities, or with other concerns owned by these entities solely because of their common ownership.

Affiliation may be based on stock ownership when (1) A person is an affiliate of a concern if the person owns or controls, or has the power to control 50 percent or more of its voting stock, or a block of stock which affords control because it is large compared to other outstanding blocks of stock, or (2) If two or more persons each owns, controls or has the power to control less than 50 percent of the voting stock of a concern, with minority holdings that are equal or approximately equal in size, but the aggregate of these minority holdings is large as compared with any other stock holding, each such person is presumed to be an affiliate of the concern.

Affiliation may be based on common management or joint venture arrangements. Affiliation arises where one or more officers, directors or general partners control the board of directors and/or the management of another concern. Parties to a joint venture also may be affiliates. A contractor or subcontractor is treated as a participant in a joint venture if the ostensible subcontractor will perform primary and vital requirements of a contract or if the prime contractor is unusually reliant upon the ostensible subcontractor. All requirements of the contract are considered in reviewing such relationship, including contract management, technical responsibilities, and the percentage of subcontracted work.

Small non-profit organizations The RFA defines "small organizations" as any not-for-profit enterprise that is independently owned and operated and is not dominant in its field.

Small governmental jurisdictions The RFA defines small governmental jurisdictions as governments of cities, counties, towns, townships, villages, school districts, or special districts with populations of fewer than 50,000.

8.5 What is this action?

This action would repeal a requirement that vessels using dinglebar gear in the GOA carry transmitting VMS units while they had dinglebar gear on board.

8.6 Objectives and reasons for considering the proposed action

The Council adopted the following problem statement in February 2008:

> *Dinglebar fishermen fishing for lingcod are required to carry VMS to enforce regulations to prohibit fishing in HAPC. However, the threat they pose to Gorgonian corals protected within HAPC may be small, and insufficient to justify the costs of VMS. For example, log book evidence suggests that most dinglebar fishing takes place at average depths above 50 fathoms. Other evidence suggests that most of the protected HAPCs occur below 80 fathoms.*

The objectives of this action are:

- Prevent damage to corals from the use of dinglebar gear
- Ensure regulations are applied without imposing undue costs on fishermen using dinglebar gear.

8.7 Legal basis for the proposed action

NMFS manages the U.S. groundfish fisheries of the GOA and the BSAI under the Fishery Management Plans (FMPs) for those areas. The Council prepared the FMPs under the authority of the Magnuson-Stevens Act. Regulations implement the FMPs at 50 CFR part 679. General regulations that also pertain to U.S. fisheries appear at subpart H of 50 CFR part 600.

8.8 Public comment

The proposed rule for this action was published in the Federal Register on October 3, 2008 (73 FR 57585). An Initial Regulatory Flexibility Analysis (IRFA) was prepared and was described in the classification section of the preamble to the proposed rule. The public comment period ended on November 3, 2008. No comments were received on the IRFA. No changes were made in the final rule from the proposed rule.

8.9 Number and description of small entities directly regulated by the proposed action

This action would directly regulate all vessels with federal fishing permits carrying dinglebar gear in the EEZ. All such vessels are small. NMFS has identified eight to twelve such vessels operating in recent years, depending on the year.

Number and description of small entities directly regulated by the proposed action

8.10 Recordkeeping and reporting requirements

The FRFA should include "a description of the projected reporting, recordkeeping, and other compliance requirements of the proposed rule, including an estimate of the classes of small entities that will be subject to the requirement and the type of professional skills necessary for preparation of the report or record..."

The analysis did not identify any new "projected reporting, record keeping and other compliance requirements" associated with the proposed FMP amendment and regulatory changes.

8.11 Description of significant alternatives

A FRFA should include "a description of the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency which affect the impact on small entities was rejected."

NMFS has not identified a significant alternative to the proposed action that would meet the objectives of the Act and other applicable statutes, and that would minimize adverse impacts on small entities. This action lifts the requirement that vessels fishing with dinglebar gear carry transmitting VMS units, completely eliminating this source of operational cost.

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